

“Creating a Better World”: The International Baccalaureate
and the Reproduction of Social Inequality in Australia

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Abbreviations

AC	Australian Curriculum
ACARA	Australian Curriculum, Assessment and Reporting Authority
ATAR	Australian Tertiary Admission Rank
CP	Career-related Programme
DP	Diploma Programme
IB	International Baccalaureate
IBO	International Baccalaureate Organization
ICSEA	Index of Community Socio-Educational Advantage
MYP	Middle Years Program
NRIPS	Net Recurrent Income Per Student
OECD	Organisation for Economic Co-operation and Development
PISA	Programme for International Student Assessment
PYP	Primary Years Program
Q1	Most Advantaged Socioeconomic Quartile of the Population Considered
Q2	Second Most Advantaged Socioeconomic Quartile of the Population Considered
Q3	Second Most Disadvantaged Socioeconomic Quartile of the Population Considered
Q4	Most Disadvantaged Socioeconomic Quartile of the Population Considered
SEA	Socio-Educational Advantage
SES	Socio-Economic Status
UK	United Kingdom
US	United States of America

Abstract

The role of education in the reproduction of social inequality has been consistently demonstrated since the seminal research on the subject in the 1960s. Yet changes in the structures of education systems constantly re-problematise the (re)production of social inequality. In particular, new forms of educational differentiation bring the question of the social distribution of educational opportunities to the fore. One recent form of educational differentiation has been the development of curricular alternatives, and the most prevalent of these alternative curricula are the programs developed by the International Baccalaureate organisation. In this project, I attempt to understand the contribution of the International Baccalaureate Diploma Programme, a two-year pre-university credential, to the reproduction of social inequality in Australia. To that effect, I examine the quality of the Diploma Programme opportunity, in comparison to alternative programs. I then assess the social background of students choosing the Diploma, in order to evaluate the implications of the introduction of this alternative senior secondary curriculum for the social distribution of educational opportunities. I conclude the analysis by addressing some elements of explanation for the Diploma Programme's contribution to the reproduction of social inequality. Finally, I propose some modest reforms for using this new form of educational differentiation as an instrument for devising a fairer distribution of educational chances.

Declaration

I certify that this work contains no material which has been accepted for the award of any other degree or diploma in my name, in any university or other tertiary institution and, to the best of my knowledge and belief, contains no material previously published or written by another person, except where due reference has been made in the text. In addition, I certify that no part of this work will, in the future, be used in a submission in my name, for any other degree or diploma in any university or other tertiary institution without the prior approval of the University of Adelaide and where applicable, any partner institution responsible for the joint-award of this degree.

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Quentin T. Maire

September 2016

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Introduction

The schools of the Middle Ages in general, but especially the Ecole de Paris, had an international character. It did not belong to any one nation in particular but rather to the whole of Christendom. It was made up of teachers and pupils from all over, irrespective of nationality. Moreover, in the early years of the thirteenth century the degrees which were conferred in Paris were recognised as valid in all the countries of Europe. (Durkheim, 2006 [1977], p. 85)

From governments and intergovernmental bodies to multinational corporations interested in education, public figures, media outlets, and even some researchers, it has become all too customary to hear and read that we are now living in the age of ‘global education’. These confident claims on the dominance and inevitability of a global system of education are part of a broader set of discourses on ‘globalisation’, alluding to the loss of meaning of national borders in a wide range of domains. In education, the growing irrelevance of national frontiers has mainly been asserted at the tertiary level, based on an increase in the number of inter-national students (and academics more marginally) in developed countries’ universities. But international education is not restricted to the tertiary level, it is argued. It is claimed to be a reality at the schooling level as well. And the International Baccalaureate (IB) organisation is presented as the most prominent example of school-level international education.

With over 4,600 schools in almost 150 countries implementing at least one of its educational programs (International Baccalaureate, 2016g, 2016i), it is easy to understand why the International Baccalaureate is often considered as the paradigmatic case of the global education provider at the schooling level. The organisation offers four different ‘international education’ programs for primary and secondary school students, and its two-year pre-university course, the Diploma Programme (DP), is recognised as a valid university entrance qualification by most major universities in the world. The DP

alone is offered as a senior secondary education program in more than 3,000 schools, and there were over 150,000 candidates to the DP credential in 2015.

As Durkheim's introductory citation suggests, however, this form of 'international' education is not as revolutionary as it is believed to be. A model of cross-national education—that is, an education partly unrestricted by the boundaries of the primary units of political organisation (kingdoms or nation states, depending on the period)—was a reality centuries before the development of international education as we know it, in the second half of the twentieth century. And, beyond this case of historical amnesia, the presence of a program from a single educational provider in multiple countries—such as the IB Diploma Programme—is far more a case of multi-national education than a case of inter-national or global education. At the same time, the IB organisation is more of a supra-national entity than an inter-national one.

Despite the spontaneous appeal of thinking about the International Baccalaureate programs as forms of international education, I argue that focusing on the supranational level of 'international education' can be sociologically reductive and politically misleading. For the researcher interested in understanding the reality of *school systems*, an investigation of education at the national level is essential. In fact, ignoring the importance of the nation-state is probably one of the most damaging analytical misconceptions that a sociologist of education can do when analysing the *structures* of educational systems and the distribution of educational opportunities. The reason is simple: in the twenty-first century, education systems are administered by nation states (in a more or less centralised fashion). In other words, formal education is predominantly organised in *national systems of education*, with the state being, in the last analysis, the holder of authority over the structures and functioning of the entire school system, for which it acts as the main funding provider. "Education policy [...] is one domain over which nations still have a good degree of sovereignty" (Lingard, Thompson, & Sellar, 2016, p. 2).

In spite of the mounting global influences for shaping education systems according to a supranational educational agenda (Rizvi & Lingard, 2010, pp. 128-136; Sellar & Lingard, 2014, pp. 928-932), countries are, factually, sovereign over the structures of their education system. Even though most proponents of the dominant form of globalisation often deny it, the major form of political organisation of societies in the early twenty-first century remains the nation state. Of course, important agencies

and institutions of supranational governance have emerged and gained power since the 1980s, the most powerful ones dealing with economic governance. Yet, the collective structuring of societies has preserved the national unit as its main form of political organisation. Rodrik (2011, p. 208) summarises the point as follows: “we may think we live in a world whose governance has been radically transformed by globalization, but the buck still stops with domestic policy makers. [...] Democratic decision making remains firmly lodged within nation states”. And the organisation of education systems is no exception to the sovereign authority of nation states.

Branch (2014, pp. 1-2) reminds us that, “in today’s international system, all political units are sovereign territorial states, defined by linear boundaries and with theoretically exclusive claims to authority within those lines”. In other words, the state is a *sovereign* political community of ruled and rulers. It can be thought of as a dual entity, combining “the set of social agents commissioned to exercise sovereignty” and “the set of social agents unified and subject to the same sovereignty” (Bourdieu, 2014 [2012], p. 37). One of the prerogatives of the state, in most countries, is the administration of the education system on its territory. In federal unions such as Australia, the power over the shaping of the education system is shared by the federal government (what I have called the ‘nation state’) and the state¹ and territory governments. Even in countries like Australia, where the local states and territories are constitutionally responsible for the organisation of education in their jurisdiction, the authority of the federal government has been progressively reasserted over these infra-national governments, primarily based on its funding power.

In recent years, the central control over education has been reinforced in federal systems across the globe. In Australia, this growing national authority has been exerted via the development of national testing agendas (Lingard et al., 2016, pp. 3-6), national accountability systems for schools and teachers (Lingard, 2010, pp. 129-131; Lingard & Sellar, 2013, pp. 635-636), a national curriculum (Savage, 2016, pp. 834-836; Savage & O’Connor, 2015, pp. 615-617), and national standards for evaluating teachers’ professional expertise (Clarke & Moore, 2013, pp. 488-490; Connell, 2009, pp. 213-214). Paradoxically, the more discourses about the globalisation of education have become taken for granted, the more they have been empirically refuted by the

¹ In the case of Australia, the ‘nation state’ refers to the Australian federation, while the ‘states’ are subdivisions of this overarching political unit.

reassertion of a *national authority* over the organisation of education. This primacy of the nation state in the administration of formal education has a logical implication for the sociology of education (and beyond): for the researcher interested in the *political organisation* of education systems (such as the social distribution of educational opportunities, for example), focusing on the state as a primary unit of analysis is essential. And this precept applies, counterintuitively, to programs of ‘international education’ as much as to any other form of educational provision.

The political organisation of an education system determines the *distribution of educational opportunities* that takes place within it. When it comes to opportunities, distributive matters are political questions, for they arbitrate between the desires and preferences of different social groups. In this work, I analyse the distribution of educational chances to students from different social backgrounds, with the intention of advancing our understanding of the intergenerational (re)production of social inequality. Precisely because international education programs tend to be conceptualised in a superficial manner, as inherently *global* objects of research, I insist on examining the insertion of an international education program into the system of distribution of educational opportunities at a *national* level. Since the IB Diploma Programme (DP) is considered as the dominant case of international education program at the schooling level, I focus on the role of this pre-university credential in the social distribution of educational opportunities in one nation state.

In countries such as the United States, Canada, Ecuador, and Australia, the number of schools and students offering and studying the DP is large enough (relative to the size of the student population) for it to have a significant role in the distribution of educational chances. For a number of reasons outlined in chapter two, this thesis deals with the Australian case, but the investigation merits being conducted in other countries as well. My main argument is that the inclusion of a supra-national educational credential inside nationally-determined educational structures represents a *reconfiguration* of the education system that I define as a new form of *educational differentiation*. Since the DP and the local or national senior secondary programs(s) exist side by side, very often even within the same school, in most countries where the DP is present, the introduction of the DP into a national education system can be described as a regime of coexistence of curricular *alternatives* for students. And the transformation of educational structures that results from this inclusion calls for

reconsidering the distribution of educational chances to different social groups. Specifically, the emergence of regimes of curricular alternatives requires an examination of the relations between these different alternatives and their respective position in the distribution of educational opportunities. It is this relational analysis that I perform in the following chapters.

The International Baccalaureate is a non-profit organisation offering four curricula (one for primary school, one for middle school, and two for senior secondary school students). One of these curricula is the DP, an academic curriculum for students in their final two years of schooling (International Baccalaureate, 2013c). Since its early years, the IB has insisted on the fact that its foremost educational objective goes beyond purely academic outcomes, and this goal is nowhere expressed as clearly as in its mission statement. “The International Baccalaureate aims to develop inquiring, knowledgeable and caring young people who help to *create a better and more peaceful world* through intercultural understanding and respect” (International Baccalaureate, 2013h, p. iv, my emphasis). How can a supra-national, not-for-profit educational organisation like the IB help its students to create a better world? In the school systems in which IB programs are implemented, giving all students, irrespective of their social background, a fair chance of accessing the opportunity that IB programs represent, is an auspicious place to start.

The DP has received a certain amount of research attention, including in Australia. However, except for a few notable exceptions, the DP has been examined as a discrete entity. There is a significant paucity of *contextualisation* of the DP within the broader educational structures that determine its position in the system of distribution of educational chances in a nation state. In this work, I attempt to give the context all the attention it deserves, by methodically locating the DP within the structures of the Australian education system. Because of this work of contextualisation, and because of the complexity of education reality, I have been led to draw on a wide range of fields of knowledge in order to provide a comprehensive and systematic portrayal of the position of the DP in the social distribution of educational opportunities in Australia. Going beyond the excessive and unfortunate disciplinary compartmentalisation that characterises most research in the social sciences has proved essential for providing the breadth of analysis that the object of my research required.

I have organised the document into 10 chapters. In the first one, I situate the question of the distribution of educational opportunities within the broader system of reproduction of social inequality over generations. I also present some key analytical categories that I use in the rest of the thesis. In the second chapter, I turn to the Diploma Programme. I elaborate its conceptualisation as an example of alternative curriculum and draw on existing research for understanding the social distribution of the DP opportunity in Australia. This leads me to the third chapter, where I present the research framework I assembled for conducting the project. After outlining the epistemological preliminaries underpinning my research, I explain the methodological framing lines of (1) the student data, collected using a questionnaire, and (2) the school data, obtained from public data sources.

In the three subsequent chapters (four, five, and six), I combine school- and student-level analyses for understanding the position of the DP in the system of reproduction of social inequality. In the fourth chapter, I examine the comparative quality of the DP opportunity based on the academic results of its schools and students. I reveal that DP schools are academically successful, and DP students even tend to outperform their non-DP peers within DP schools. In the fifth chapter, I show that the comparative quality of the study experiences for different curricular alternatives is unequal in Australia. DP schools are better resourced than non-DP schools (on average), and DP students also believe that their educational experience is superior to the experience of non-DP students in DP schools. In the sixth chapter, I present the social implications of the hierarchy of curricular alternatives in Australian senior secondary education. I demonstrate that students from economically and culturally privileged backgrounds are overrepresented in DP schools, and DP students are at least as socially privileged as their non-DP comrades in DP schools. Taken together, these three chapters prove the existence of a double system of stratification between curricular alternatives, where the *social* stratification between alternatives aligns with their *academic* stratification. To that extent, the DP contributes to the reproduction of social inequality on economic and cultural grounds in Australia.

In the following two chapters (seven and eight), I provide some elements of explanation for the results described in chapters four to six. In the seventh chapter, I offer an in-depth analysis of the major features of the DP curriculum. I pay attention to the cultural and cognitive demands it places on students, and argue that the curricular

structures of the DP contribute to explaining its social selectivity on cultural grounds in Australia. In the eighth chapter, I sketch a brief social history of the emergence of the DP in the landscape of Australian education. I place the development of the IB organisation in parallel with the reconfiguration of the major structures of Australian schooling since the 1970s and show how the permeation of the DP into the Australian education system has relied on neoliberal reforms. This historical genesis is useful for making sense of (1) the quality of the DP opportunity, and (2) its current economic and cultural selectivity. Both of these chapters patently reveal the importance of contextual factors in understanding the social distribution of educational chances.

In the final two chapters, I tease some essential theoretical and practical implications out of the eight previous chapters. In chapter nine, I propose some conceptual developments in the theory of regimes of curricular alternatives; I dissect the fuzzy notion of ‘choice’ in education; and I argue for a *political* analysis of the neoliberal structures of education systems. Finally, in the last chapter, I suggest some important modifications for reconfiguring the provision of the DP alternative in the Australian education system along more equitable lines. I present the different types of reform that could be implemented, by focusing on the supply and consumption of the DP in particular.

From this brief outline, as well as the tone of this introduction, it may already be evident that the value of my thesis arguably lies primarily in the *theoretical* contribution it offers to the sociology of education. The empirical analysis serves as a support to the production of sociological knowledge, and the case of the DP in Australia is highly valuable because of the *analytical categories* that can be deployed for studying it. In this work, my main objective has been to elaborate precise and justified ways of thinking about the *political determinants and opportunity implications* of the structuring of education systems. To that effect, I have focused on the phenomenon of regimes of curricular alternatives, considered as a new form of educational differentiation in the distribution of educational chances. In the end, my primary objective has been to progressively construct a conceptual apparatus that can be used as a source of inspiration for generating future research agendas.

Chapter One

The Education-Based Reproduction of Social Inequality

In this chapter, I introduce the theoretical and conceptual foundations that will underpin the analysis developed in the rest of the thesis. I define social inequality as an unequal distribution of life chances, and I argue that the principle of equality of opportunity supposes a fair distribution of opportunities. I explain that the education system is one of the central pieces in the opportunity structures of Western societies, and I introduce the three core features rendering the school system essential in the distribution of life chances. One of these fundamental elements is the unequal distribution of educational opportunities based on students' social origin. I then discuss the implications of educational differentiation on the structure and distribution of educational opportunities. To conclude, I apply this reflection to an original case of educational differentiation: the International Baccalaureate Diploma Programme.

I. The opportunity structure

1. From opportunities to social inequality

Individuals have various aspirations for their life. Their desires span a wide array of domains, ranging from education and employment to family life, health, friendships, and cultural activities. For people to accomplish their goals at different stages of their life, they need to (1) be presented with opportunities for achieving them and (2) possess the dispositions (including the aspirations) necessary for seizing these opportunities.

The possibilities afforded to social agents for forming aspirations and satisfying them defines the *opportunity structure* of society. The opportunity structure of any society can be situated on a continuum ranging from numerous and diverse opportunities, at one end, to limited and narrow opportunities, at the other. Some

opportunities, such as making friends, are widespread, while others, such as becoming a government minister, are scarce. At the same time, different opportunities tend to be more or less wished for by people. Some opportunities, such as being economically successful, are highly sought after. In many cases, the most desired opportunities are scarce and the rarest opportunities are highly desired, so that scarcity and aspirations tend to align with one another at the top-end of the opportunity structure. When less opportunities are available than the number of people who wish to obtain them, one or several mechanisms of *allocation* (e.g. lottery, competition, bidding, or queuing) are used to regulate the distribution of these opportunities. The choice of the mode(s) of allocation is a *political* decision based on a political theory, defined as “communal moral philosophy” (Hollis, 1971, p. 169).

As Joseph Fishkin (2014, p. 130) explains, “the shape of the opportunity structure is a highly consequential, if rarely noticed, fact about any society”. From a distributional point of view, the opportunity structure of any society can be located on a continuum ranging from a fair distribution of opportunities, whereby all people have a wide range of chances to develop their own preferences and fulfil their desires, to a completely unfair distribution of opportunities, whereby a single person can enjoy numerous and diverse opportunities while all other people have very few prospects at all. In occidental societies, some opportunities are distributed almost equally between all people while others are distributed highly unequally: where the right to vote is universally distributed to all adult citizens, children from privileged families still have far better chances of becoming economically successful than children from underprivileged families. And overall, the bundle of opportunities available to a social agent defines her *life chances*.

Ralf Dahrendorf (1979, p. 61) defines life chances as “opportunities for individual development provided by social structure”. In the study of life chances, we can use the term ‘social inequality’ as shorthand for ‘life chances inequality’, thus using the concept of social inequality to discuss distributional differences between social agents or groups in their life opportunities. Two social agents’ life chances are unequal when one has a broader and superior range of opportunities afforded to her than the other. Of course, the bundle of opportunities available to two people is never accurately comparable on a single scale. Nevertheless, in many cases, it is possible to assess if the opportunities given to one individual are superior and more numerous than the

opportunities given to another. The more broadly one examines an individual's life chances (focusing on a person's overall life chances, for instance), the more difficult it becomes to properly compare this bundle to another person's bundle of life chances, and thus to evaluate the distribution of opportunities. On the other hand, it becomes possible to compare people's opportunities with an increasing degree of precision as one focuses on a specific field or category of opportunities, such as educational opportunities, for example.

2. The distribution of social inequality

In current Western societies, the proper moral order—defined as “the rights and obligations we have as individuals in regard to each other” (Taylor, 2004, p. 4)—for the distribution of opportunities is believed to be one of *equality*. While most individuals do not wish for money, authority, success, or fame to be distributed equally across the entire population, the majority would claim that all should have *equal opportunities* for being rich or successful. Even though the right *degree* of inequality in terms of wealth of success is a debatable and debated issue, people rarely question the *existence* of these unequal outcomes. When it comes to opportunities, however, most people think that we should all be equal. In other words, the opportunity structure is an area where equality matters for people. Here, too, the total number of opportunities available and the principle underpinning their distribution is an important element of political struggle, but the legitimacy of the existence of unequal outcomes is rarely contested. Social agents tend to consider that a certain amount of inequality is acceptable and justified in most desired *outcomes*, provided that everyone has had a fair *chance* of being on the ‘good side’ of inequality—that is, reaching the advantageous positions in the inequality structure. In the context of opportunities, it thus seems that a fair chance is interpreted as an equal chance to succeed.

People's discursive commitment to fair chances is embodied in the ‘equality of opportunity’ slogan. This conception of the distribution of opportunities is, according to Samuel Scheffler (2003, p. 5), “the prevailing political morality in most liberal societies”. Of course, people disagree on what actually counts as equality of opportunity, but they do agree on the idea that equal opportunity is a valuable principle. “As a general concept, equal opportunity is unassailable. Nearly everyone believes in

some conception of it” (Fishkin, 2014, p. 256). Although it is doubtful that ‘merit’ is actually measurable (Duru-Bellat, 2014, p. 36), most people associate a regime of equal opportunity with a ‘meritocracy’, a societal organisation in which inequalities between people would be the sole result of differences in effort and merit (Dubet & Duru-Bellat, 2007, p. 276). Such an equal distribution of opportunities in society is a core component of common-sense notions of social justice.

At the broadest level, a comprehensive conception of equality of opportunity would be characterised by the principle of “fairness in overall life chances” (Fishkin, 2014, p. 26). Accordingly, a priority for promoting equal opportunity is to focus on the distribution of the type(s) of opportunities opening the most doors. It is these opportunities that most critically improve individuals’ life chances by unlocking many other opportunities. In capitalist societies, where the most universal operator of value is money, acquiring money tends to become a central form of opportunity sought after by most social agents, as the satisfaction of many individual desires and aspirations comes at an economic cost. Since most social relations giving access to valuable goods, experiences, and services take the form of economic transactions, most people need a significant amount of money to satisfy their aspirations, even if their interests reside outside of the economic sphere. Money thus holds the status of “object of meta-desire – the obligatory gateway through which all other (market) desires must pass” (London, 2014 [2010], p. 9). For instance, if a person cares deeply about her *freedom* to do or have certain things, she will be led to strive for acquiring money, simply because freedom is “to a massive extent granted and withheld through the distribution of money” (G. A. Cohen, 2011, p. 195).

Drawing on the example of money, it becomes evident that the opportunity structure partly determines the opportunities that are subjectively most important for individuals. In most Western societies, a significant diversity of opportunities exists: people can apply themselves to different activities and flourish in various domains. Yet, the types of opportunities available, their diversity, their scarcity, and their distribution contribute to determining social agents’ preferences. Despite the large diversity of endeavours and opportunities available in Western societies, some types of opportunities are more fundamental for satisfying people’s preferences than others, because they bear on the rest of people’s opportunities in many other social fields. The social spaces in which these opportunities can be found thus become crucial for most

individuals, no matter the plurality in their own definition of a good life. In money societies, for example, the social spheres where money can be acquired function as key arenas for the distribution of opportunities. And in capitalist societies, social agents are made to rely almost entirely on employment for acquiring money (Lordon, 2014 [2010], pp. 7-8).

3. Jobs, labour income and life chances

The occupational sphere (generally called ‘job market’) constitutes a central piece in Western societies’ opportunity structure. The economic reasons explaining the importance of jobs spontaneously come to mind: for most people, labour income constitutes the central piece of economic life chances. In Australia, as in most other countries, paid labour is the number one source of income for people throughout their life (Fletcher & Guttman, 2013, p. 49; Greenville, Pobke, & Rogers, 2013, p. 7). Specifically, for all Australian income quintiles but the bottom one, labour income is the major source of income altogether (Wilkins, 2014, p. 27). Income from labour matters not only because it functions as a purveyor of freedom: a regular and stable income also allows social agents to project themselves into the future and develop new ambitions and preferences.

At the same time, the satisfaction of one’s aspirations through paid work is clearly not limited to earnings. One can find a sense of fulfilment in contributing to a productive activity; paid work can be an occasion for making friends and broadening one’s social connections; one can feel socially useful based on the type of tasks and activities involved in the job; the workplace can be a site of recognition by peers and beyond; and paid labour can also be an opportunity for applying and developing one’s skills and competencies. Finally, paid work can also lead to further opportunities when it functions as a way of gaining experience in a wide range of domains. For all these reasons, labour participation is a primordial node in the societal opportunity structure.

How is the distribution of opportunities and rewards organised in the occupational world? A simple representation would be to conceive of the labour structure as a pyramid. In the pyramid of jobs, there are a large numbers of poorly-rewarding jobs at the bottom, a more limited number of intermediate jobs that are more satisfying in the middle, and a small number of highly-rewarding positions at the top of

the pyramid. One decisive feature of the occupational opportunity structure is the *relative alignment of the different forms of rewards*: the most prestigious jobs are also often the highest-paid ones, so that the hierarchies of occupational prestige and occupational income can easily be superimposed. In Australia, for example, medical practitioners and legal professionals tend to have very high prestige scores (McMillan, Beavis, & Jones, 2009, pp. 137-138) as well as weekly earnings in the highest income bracket (Department of Employment, 2016, pp. 43-44). At the other end of the spectrum, checkout operators and cashiers tend to have low levels of occupational prestige as well as low incomes (Department of Employment, 2016, p. 45; McMillan, Beavis, et al., 2009, p. 144). Moreover, the highest-paid and most prestigious jobs also tend to have better working conditions than less-paid and esteemed jobs.

The concentration of superior rewards (including working conditions) in the upper segments of the occupational pyramids has a logical implication: it leads to a significant homogeneity of occupational preferences across the population. If people could choose any existing job, with the working conditions and compensations currently associated with it, most of them would move towards the upper-end of the occupational pyramid, and the base of the pyramid would end up being virtually empty. The correspondence between prestige, income, and working conditions explains why most people would prefer having their children working as a neurosurgeon than as a sales assistant on minimum wage. Yet, the number of places at the top of the pyramid is limited; these positions are far scarcer than the number of people who aspire to them.

If the most sought-after job opportunities are *scarce*, and if more social agents wish to obtain them than the number of positions available, what are the mechanisms in place for regulating the allocation of these superior positions? In most cases, it is *competition* that rules. This competition can be more or less open and regulated, but the competitive logic broadly prevails. For jobs in the upper-half of the pyramid, the boards of directors or employers can generally choose between numerous potential candidates and determine the winner. For these jobs, the pool of applicants is actually far larger than the pool of available jobs. In 2014, Australian employers refused more than 95 percent of *graduate job* applications they received for a position (Lindsay, 2015, p. 8). This competition for highly-desired jobs in limited supply (compared to the number of aspirants) is a paradigmatic case of positional competition, whereby people are engaged in a contest “for a higher place within some explicit or implicit hierarchy and that

thereby yields gains for some only by dint of losses for others” (Hirsch, 2005 [1976], p. 53).

There is a diversity of occupations existing in the upper layers of the occupational pyramid. In Australia, managerial, financial, engineering, teaching, scientific, information and communications technology (ICT), medical, legal and insurance, and mining positions can all be lucrative. At the same time, the variety of working conditions and rewards for two people doing the same job explains the presence of some of these jobs on different echelons of the occupational pyramid (Pakulski, 2005, p. 167). The working conditions and salary of a teacher employed in a remote Australian school where students from disadvantaged backgrounds are overrepresented are hardly comparable to the income and working conditions of a teacher working at an elite private institution in an upper-class suburb of Melbourne. Despite this internal variability in the rewards and working conditions associated with given jobs, there is a broad category of jobs that is largely overrepresented at the top of the occupational structure: the professions. The professions are “the most privileged and monopolistic of occupations” (Collins, 1979, p. 180). For instance, in most Western countries, becoming a lawyer or a doctor is generally a good strategy for reaching the top decile of the total income scale (Piketty, 2014 [2013], p. 280). Even though not all professions are as lucrative as the medical and legal professions, and beyond the struggle for the definition of this occupational category, most professional jobs pay well and provide comparatively good working conditions.

In 2015, the Australian Department of Employment classified 22 percent of the Australian workforce as professionals (Department of Employment, 2016, p. 22). Iris Young considered the professions to be the “most scarce and most rewarded positions, and thus the positions for which there is the greatest competition” (I. M. Young, 1990, p. 203). Since the 1990s, managerial jobs, which now represent 13 percent of Australian jobs (Department of Employment, 2016, p. 22), have migrated upward in the occupational pyramid and occupy a place of choice at the top of the pyramid. However, the professions are often appealing to many because, unlike managerial positions, some professional jobs are quite consistently located at the upper-end of the occupational pyramid. The health professions are almost systematically lucrative jobs, for instance, while the rewards associated with managerial jobs (and other less-reputed professions) are more variable.

Although the position of the professions in the occupational pyramid would be sufficient for making them central to my analysis, there is another reason why they are a particularly relevant case in the context of this text. The explanation can be found in the mechanism in place for regulating the access to the professions. For most high-end professional jobs, the distribution of occupational opportunities is based on *academic titles*: they are a paradigmatic case of credential-based occupations. In the case of the professions, as well as an increasing number of other jobs, the problem of regulating the competition for scarce and valuable positions is *outsourced to the education system*, where the competition for future occupational opportunities is transformed into an *educational competition for academic success*. In turn, the import of a job-distribution function into the education system reshapes the organisation of teaching and learning across all educational levels.

II. The education system and the opportunity structure

The education system plays a crucial role in the shaping and distribution of life chances, especially via its determination of occupational chances. In this section, I outline an opportunity-based social theory of education, in which school systems are at the core of the opportunity structure of societies. The opportunity-defining use of education systems rests on three main features: (1) the credentialisation of occupational chances, (2) the scarcity of academic titles, and (3) the unequal distribution of educational chances.

1. The credentialisation of life chances

Since the end of the Second World War, education systems have become increasingly connected to the labour world, primarily through the occupational importance of educational qualifications. This growing imbrication has taken the form of two major trends in Australia and other similar countries. First, the negative consequences of not having any academic credential have become more severe, especially for work opportunities. Second, more and more occupations in the upper-half of the occupational

pyramid have become formally ‘credentialised’ and now require specific qualifications from newcomers. This ‘credentialisation’ of life chances goes beyond the workforce, but it is most evident when it comes to employment. Because of their heightened occupational significance, academic titles have become an increasingly strong determinant of social inequality (OECD, 2014b, p. 14). In other words, schooling now “underpins a competition for unequal life-chances” (Jonathan, 1990, p. 125).

The school system is essential for current students’ future life chances because it holds, from preschool to tertiary and vocational education, a *monopoly over the production and distribution of legitimate educational credentials*². This monopolistic power possessed by the school system implies that no other institutions can offer alternative credentials that would be as valuable as those offered by the education system. Based on this credentialing monopoly, the correspondence between degrees and occupational opportunities is sufficient (albeit not perfect) for the school system to significantly contribute to placing individuals in their position in the income structure, and thus indirectly influencing their economic opportunities.

The occupational value of credentials and the emergence of new opportunities for acquiring them in the second half of the twentieth century in many Western countries have led more and more students to prolong their educational experience and persist in their quest for degrees. This movement has resulted in what French sociologists have labelled as the ‘massification’ of secondary education (Merle, 2000, p. 27; van Zanten, 2000, p. 410), describing the transformation of secondary education from a minority experience to a quasi-universal system. In Australia, this transformation of secondary education has also led to a massive growth of the tertiary education sector from the 1960s onwards. Universities are now in charge of organising the quasi-universal principle of occupational outcomes based on school achievement (Pakulski, 2005, p. 163).

We have multiple indicators of the importance of credentials for the distribution of occupational chances. Across the OECD countries, the level of employment is higher for tertiary educated people (80 percent against 70 percent for senior high school graduates and 60 percent for lower levels), and possessing a university degree also enhances the likelihood of working full time (OECD, 2014b, pp. 102; 107). In

² This is what Bourdieu (1984 [1979], p. 80) calls the monopoly over cultural capital certification.

Australia, those who possess a university qualification have the highest rate of employment (Department of Employment, 2014, p. 30). The levels of employment of the 25-64 year-olds in 2012 were 76 percent for high school graduates, 82 percent for university undergraduates, and 86 percent for university postgraduates (OECD, 2014b, p. 114).

The benefits of credentials for life chances are not only evident in employment: their role in economic, cultural, social, and symbolic life chances is also established. University degree completion is associated with an increase in occupational status and earnings in Australia (Marks, 2008, p. 54). An individual's level of education is correlated with her earnings in all OECD countries, and 30 percent of university graduates earn more than twice as much as the median worker (OECD, 2014b, pp. 132; 137). In Australia, educational attainment and occupational prestige are positively correlated with one another (Lee, 2010, p. 22). Meanwhile, the average relative earnings of university graduates compared to senior high school graduates are 14 percent superior for university undergraduates and 42 percent for university postgraduates across the country (34 percent for university graduates overall) (OECD, 2014b, p. 141).

The generic correlation between academic titles and occupational opportunities mainly demonstrates that lacking such qualifications is detrimental to one's job prospects. But we also have more direct evidence of the credentialisation of jobs. In 2011 in Australia, almost 70 percent of workers with a higher education degree were employed in the same field as their university degree, and more than 15 percent were employed in a different field but for which their university degree was relevant (Australian Bureau of Statistics, 2012b, p. 13). Altogether, 85 percent of social agents employed and possessing a university credential had a degree that was relevant to their job situation. For the professions, the proportion of employed people with a degree that was 'relevant' to their job reached 93 percent, and over 90 percent of working people with a health educational credential worked in a health-related occupation (Australian Bureau of Statistics, 2012b, p. 15).

Another indicator of the structuring importance of credentials for the distribution of occupational opportunities can be found in the proportion of qualification-relevance across the income hierarchy. This rate increases as one rises on the income scale: one encounters more and more workers for whom their credential is

relevant to their occupation as one moves upward in the income structure. The ratio reaches almost 90 percent for the highest income quintile, approximately 80 percent for the second highest income quintile, and 70 percent for the median quintile (Australian Bureau of Statistics, 2012b, p. 15). This result proves that, for reaching the highest-paying jobs, obtaining a relevant university qualification is essential. As a matter of fact, obtaining an appropriate university degree is more important and relevant for the highest-paying jobs than for jobs in any other income bracket, so that credentials are crucial for unlocking the most sought-after and wanted occupational opportunities.

Most studies on the occupational value of credentials rely on imprecise variables, the most common one being 'level of education'. In fact, different university degrees can be very unequal in terms of the opportunities they make available. A hierarchy of credentials exists at every (tertiary education) level, and the opportunities unlocked by different degrees are unequally desired and rewarding. This has been confirmed in the case of Finland, for example, where Irene Prix found that different fields of study at a given educational level are associated with unequal occupational and economic rewards (Prix, 2013, p. 265). In Australia, the employment rates after a bachelor degree vary according to the discipline, with the top positions being occupied by pharmacy (98 percent), medicine (97 percent), mining engineering (96 percent), surveying (87 percent), electrical engineering (86 percent), and civil engineering (85 percent) (Department of Employment, 2014, p. 30). Relatedly, for bachelor graduates in 2013, the highest paying jobs were dentistry, optometry, engineering, earth science, and medicine (in decreasing order) (Department of Employment, 2014, p. 31).

Given the high value of credentials across the pyramid of jobs, as well as their particular role in accessing the upper rungs of the pyramid, academic titles certainly constitute one of the keys to superior and diverse occupational opportunities. Accordingly, their distribution becomes a core component of the opportunity structure, and the ideal of equal opportunity cannot be achieved without a fair distribution of educational credentials. There is, however, another essential factor that we need to mention before discussing distributional issues. It is only because of their *scarcity* that credentials hold a high exchange value in the paid labour world. In other words, the limited supply of credentials underpins their value.

2. Credential scarcity

The massification of secondary schooling and generalisation of tertiary education in the second half of the twentieth century have led to a significant growth in the supply of credentials. In most cases, this development has engendered a devaluation of academic titles, materialised by the inflation in the ‘cultural price’ (i.e. the academic degree requirements) of some jobs. This trend was already evident in the 1960s. For instance, Bourdieu and Passeron (1979 [1964], p. 156) noted that the increased completion of secondary education in France was diminishing the value of senior secondary certificates. The emergence of the ‘vocational baccalaureate’ in 1985 increased the percentage of a cohort reaching the end of secondary school while simultaneously leading to a higher proportion of manual workers employed with senior secondary credentials instead of junior secondary apprenticeships (Eckert, 1999, pp. 233-235). In Australia, school graduates at the turn of the century were frequently overqualified for the job they obtained after completing secondary school (Teese & Polesel, 2003, p. 158).

It is only when the number of degree holders increases more rapidly than the corresponding employment pool that credentials are subject to devaluation. In fact, as the completion of senior secondary education became the norm for most students, the competition for accessing higher-level occupations was displaced towards tertiary education. As early as the 1970s, university degrees had become a requirement “for many positions for which no such education had been required before” (Collins, 1979, p. 129). In Australia, most practising engineers were university-educated by the 1980s (Teese & Polesel, 2003, p. 6). The process has continued to date. In the United States, for example, advertisements for jobs such as dental laboratory technicians or chemical equipment operators were twice as likely to require a bachelor degree from applicants in 2012 as they were in 2007 (Rampell, 2012). In Australia, tertiary education attainment rates have become, partly because of the large inflow of international students, higher than senior secondary attainment rates (OECD, 2014b, p. 33).

According to Bourdieu, the devaluation of credentials and inflation in the credential-price of occupations entails the structural phenomenon of *overproduction* (Bourdieu, 1996 [1989], p. 287). While this is arguably true in certain fields, where the number of graduates far outweighs the possible number of jobs in the corresponding sector, it is not a generally valid statement. In fact, Bourdieu also notes that a clear

counterexample to the twin phenomena of overproduction and devaluation can be found in the case of the ‘liberal professions’ (Bourdieu, 1984 [1979], p. 137). University degrees are unequally protected from overproduction, where some are able to preserve their limited supply. In the medical field, for instance, long-standing professional groups have been able to maintain a relatively small distribution of credentials despite the mounting social demand on medical consultations and procedures.

Whereas educational massification and credential inflation have transformed the lower segments of the education system, the most desired occupational opportunities have remained fairly exclusive. For the credentials governing access to the job opportunities located high in the occupational pyramid, *scarcity reigns*. In fact, the scarcity of sought-after university credentials underpins the role of modern education systems in the distribution of life chances. This scarcity rests on a limited supply of sought-after credentials compared to the demand (that is, the number of students wishing to obtain them). At the university level, the most common mechanism for ensuring a limited supply of a given academic title is the establishment of a *numerus clausus*. For instance, the Faculty of Medicine, Dentistry and Health Sciences at the University of Melbourne offered approximately 350 places for the Doctor of Medicine course commencing in 2016 and approximately 90 places for the Doctor of Dental Surgery commencing in 2017 (The University of Melbourne, 2016a, 2016b). Two years earlier, barely 16 percent of applicants had received an offer for enrolling in a medical degree in Australia (Department of Education and Training, 2015, p. 19). The demand for these courses thus far outweighs the supply made available through a *numerus clausus* mechanism.

For Bourdieu (1984 [1979], p. 161), *numerus clausus* policies in higher education represent an act of “conscious protectionism” devised by the occupations to which these degrees in limited supply correspond. The scarcity of sought-after credentials is maintained to avoid inflation in the ‘cultural price’ (i.e. credentials needed) for accessing given positions. Put differently, supply-control policies are a deliberate mechanism for preventing the oversupply of qualified workers in certain fields. At the same time, a limited supply of qualified workers also decreases the degree of competition within that professional sector and can safeguard comfortable working conditions and profits. In other words, the profitability of a diploma partly resides in its scarcity (Bourdieu & Passeron, 1977 [1970], pp. 181-182), and its scarcity is the result

of a struggle for determining the appropriate (i.e. socially optimal) supply of credentials. In this struggle, the interest of professional bodies often conflict with the interest of the students and families who do not manage to acquire one of the rare credentials made available, as well as with the interest of the population using the services provided by these professionals.

We can now return to the question of the distribution of academic titles: what are the mechanism(s) of allocation in place for distributing the small number of credentials to the large number of students wanting them? Here, too, it is *competition* that reigns. Academic competition constitutes the prime mechanism for allocating (1) scarce position into sought-after courses, and (2) the credentials granted as students complete these degrees. Alongside the credentialisation of occupational chances, the scarcity of upper-end educational credentials and their allocation on a competitive basis constitute the second central component of the education-based opportunity structure in Western countries. The credential function of education and the scarcity of the most sought-after university titles (with their allocation being regulated by a mechanism of competition) also contribute to shaping practices in the lower levels of education. The importance of university degrees for life chances explains why the final years of senior secondary education are organised as a vast competition for the highest *ranks*, giving access to prestigious universities and degrees. As Teese summarises:

The basis for the demand to make curriculum and examinations discriminating is not pedagogical [...] It is economic and administrative. Scholastic discrimination is used to resolve the conflict over access to high-demand courses at university. So long as there is scarcity of places, the argument can be run that these should be allocated only to the fittest and that there should therefore be an organized struggle among the fit to determine the fittest. (Teese & Polesel, 2003, pp. 223-224)

This central feature of most Western school systems, where most social agents have an informal understanding of the logic of educational scarcity, greatly shapes students and parents' educational preferences and practices. In a context where accessing desired and valuable educational degrees is a scarce opportunity not available to all students, the limited supply of credentials functions as a way of rationing education, to borrow the expression crafted by Gillborn and Youdell (2000, p. 1). For Hirsch (2005 [1976], p. 5), the school system functions as "a device for controlling social scarcity". Because the

school system assumes a sorting function, it is essential for it to separate those selected from those rejected, i.e. successful from failing students. Producing unequal educational outcomes between students is at the core of the current functioning of the school system, and producing these unequal outcomes based on an educational competition is the logic of educational distribution. It is not a failure of the system, but one of its primary objectives. Sorting implies the coexistence of inclusion and exclusion practices, and it is around this dual arrangement that the school system engages in its triage function.

3. Unequal distribution of educational chances

The occupational use of credentials and their scarcity explain why the education system is at the centre of the opportunity structure of societies. The distribution of these opportunities is based on scarce and sought-after educational and occupational positions, both generally allocated under a regime of competition. However, I have not discussed the fairness of the competition itself. Overall, decades of research across dozens of countries have demonstrated that the chances to succeed at the educational competition for jobs and further life opportunities are systematically skewed in favour of certain social groups.

The fact that educational opportunities and educational outcomes (which constitute further educational opportunities) are unequally distributed between students from different social origins is one of the most firmly established findings of the sociology of education. As early as 1925 in France, children's unequal chances of academic success based on their social class were studied from a sociological point of view. In his insightful analysis of the French bourgeoisie, Edmond Goblot (1925, p. 13, my translation) noted that the education system “creates and maintains class divisions and distinctions”. Three decades later, Jean Floud (1956) published a thorough analysis of the relations between social class and educational opportunities in England.

In the 1960s, a renewed interest in the analysis of the distribution of educational chances between various social group occurred simultaneously in France—where Bourdieu and Passeron (1979 [1964]) released *The Inheritors*—and in the United States—where Coleman (1966) published *Equality of Educational Opportunity*. Both were highly influential in their own context, and their respective contributions have led

to a body of research in the sociology of education that has progressively demonstrated the unequal distribution of educational opportunities based on students' race, class, gender, geographical origin, ethnicity, immigrant status, and language background in many contexts. In Australia, the *Schools in Australia* report of 1973 became a landmark in the analysis of the social distribution of educational opportunities. While the report did not divulge original results on the social distribution educational chances, it summarised the findings of previous studies and confirmed that parental occupations and education levels largely determined educational opportunities in Australia (Karmel, 1973, pp. 16-20).

The common point between all these studies is their exposure of an unequal distribution of educational opportunities based on students' social origin. One of the most essential dimensions of students' social origin is their *inherited properties and attributes*, represented by a combination of genetic, economic, and cultural inheritance³. Specifically, education systems function as *cultural systems* in which certain cultural dispositions and competencies are deemed legitimate, while other cultural practices are not recognised and rewarded. Because the educational success of students is determined by their performance in academic tasks, and because the cultural demands embodied in these academic tasks are often closer to the cultural dispositions and competencies of privileged social groups, most education systems tend to contribute to the unequal distribution of educational chances based on the cultural resources of students.

It is not difficult to grasp the way in which this situation contradicts the ideal of equal opportunity. Children cannot be held accountable for their inheritance, simply because they are not able to choose their parents or the environment they grow up in. From the point of view of equality of opportunity, children are not responsible for their inheritance⁴. Accordingly, if inherited properties contribute to determining educational chances, the latter are not distributed fairly. If “all students, regardless of their socio-economic background, should be given the same opportunities to succeed” (OECD, 2014b, p. 89), the existence of a systematic relation between social origin and

³ The term ‘inherited’ is all too often considered as synonymous with ‘innate, fixed, and immutable’, especially in discussions about ‘intelligence’ and ‘academic ability’. This is a problematic misconception. When it comes to the complex performances and practices of social agents (what psychologist would term their ‘behaviours’), the appeal to an inescapable innate determinism is always misplaced. I elaborate on this deep-seated misunderstanding in the conclusion of this work.

⁴ Robert Frank (2011, p. 147) asks: “on what grounds might people born with good genes and raised in nurturing families claim moral credit for their talent and industriousness? The plain fact is that they were just lucky”.

educational opportunities is a problem for an education system supposed to be directed the principle of equality of opportunity. According to the OECD, an equitable school system would be a system where “students’ socio-economic status [...] has little or no impact on their performance” (OECD, 2013b, p. 13).

Despite the resurgence of claims denying the unequal distribution of educational opportunities between students from different social origins, the decisive influence of students’ *inherited properties* on their educational chances remains valid to date. In 2012, a large comparative study of educational chances across 10 countries confirmed that parental properties systematically contributed to shaping their offspring’s educational chances (Ermisch, Jäntti, Smeeding, & Wilson, 2012a, pp. 27-28). Using an even broader range of countries and a more comprehensive range of inherited properties, the OECD (2013b, p. 13) also concluded that, “in all countries that participated in PISA 2012, a student’s socio-economic status has a strong impact on his or her performance”⁵. Ermisch and his colleagues found that parents’ socioeconomic status (SES), measured with parental education and income variables, was constantly associated with children’s outcomes. In fact, differences in parental education or income especially affected children’s academic results and their outcomes on standardised cognitive tests, compared to other developmental outcomes less determining for academic success (Ermisch et al., 2012a, p. 22). Moreover, their international team of researchers followed the evolution of the relation between parental properties and children outcomes over time, ranging from before children’s first year of schooling until their late adolescence. Based on cross-national results, the authors concluded that the net effect of education systems “is not to reduce the relationship between parental SES and child achievement, but to maintain or strengthen the patterns of differences in outcomes already evident at younger ages” (Ermisch, Jäntti, Smeeding, & Wilson, 2012b, p. 472).

Australia does not contradict this international trend, and social background properties have been found to have an essential role in determining students’ educational chances. In 2012, a young adult whose parents had a university degree was almost two-and-a-half times more likely to go to university than someone whose parents had a high school degree, and more than four times more likely to go to

⁵ PISA is the Programme for International Student Achievement, a triennial international standardised test of academic achievement across OECD countries and beyond.

university than a young adult whose parents did not complete high school (OECD, 2014b, p. 93). In 2009, while 66 percent of adults aged 30 to 44 whose parents had a university degree also had obtained one, this rate was 13 points lower for adults with non-university-educated parents (Cassells, McNamara, Gong, & Bicknell, 2011, p. 15).

Whereas differences in educational outcomes based on students' social origin already exist in students' early years of schooling, the gap in educational achievement between highest and lowest performers widens as students advance through the school system, and "most of this learning gap develops between Year 3 and Year 9, not before Year 3" (Goss & Sonnemann, 2016, p. 2). Even for students performing equally well in Year 3, those coming from more socioeconomically privileged backgrounds (based on their parents' level of education and occupation) end up with far better academic results in Year 9 than students originating from less privileged backgrounds (Goss & Sonnemann, 2016, pp. 25-27). Moreover, Yu and Daraganova (2015b, p. 110) found the educational aspirations of Australian secondary school students to be correlated with their mother's educational expectations for them. In other words, students' propensity to strive for acquiring superior educational opportunities is related to their social origin. Overall, the social origin of students significantly determines the social distribution of educational opportunities (and thus life chances) in Australia.

4. Conclusion: education in the opportunity structure

In this section, I have delineated a social theory of education describing the place of education systems in the opportunity structure of most Western societies. This model rests on three core features of education systems that are crucial for understanding the role of formal education in life chances. First, education credentials are often necessary (albeit not sufficient) conditions for accessing the upper segments of the occupational pyramid. Second, the distribution of credentials in the education system is also organised on a pyramidal model, whereby the progressive elimination of a growing number of students underpins the value of some scarce university degrees. The hierarchy of education credentials is based on an educational competition resulting in the distribution of numerous occupationally-weak lower-level credentials at the bottom of the pyramid, and a highly limited supply of sought-after and occupationally-profitable university titles at the top. Third, educational chances for accessing the

superior layers of the educational pyramid are systematically distributed unequally between students based on their social origin. These three components can be labelled as (1) the occupationally decisive, (2) the restrictive and competitive, and (3) the socially allocative structures of education systems. Taken together, they provide a fairly simple model for understanding the education-based social distribution of life chances:

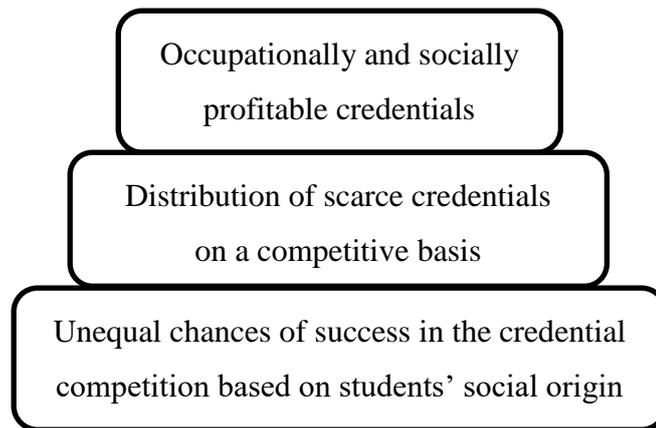


Figure 1: Tripartite model of the credential-based educational opportunity structure

Once we assemble these three components of the education-based theory of the social distribution of opportunities, it becomes evident that the very structuring of opportunities (their number, their diversity, their conditions of access, the mechanisms that determine their allocation, and their distribution) shapes people’s preferences and the meaning they give to activities such as schooling or university education. In this type of opportunity structure, formal education often becomes “a process of girding one’s children with advantages for successive future competitions for spots in a pyramidal educational and occupational hierarchy” (Fishkin, 2014, p. 218). However, as students are not responsible for the developmental and educational opportunities they benefit from, when students’ educational opportunities depend on properties they inherit from their parents or the social environment they grow up in, this unequal distribution is unfair, for it conflicts with any conventional conception of equal opportunity.

Finally, the combination of the three core components of this opportunity-based theory of education systems presented above also implies another problematic outcome for ‘equality of opportunity’ theories. If parental life chances broadly determine their

offspring's life chances (based on the corresponding unequal distribution of educational opportunities, amongst other factors), then the school system is nested within a broader opportunity structure that engineers the *reproduction of social inequality* over time.

III. From social inequality to the reproduction of social inequality

If one defines 'social inequality' as inequality in life chances, as I have done in this chapter, the education system in most Western societies factually contributes to the reproduction of social inequality over time. The reproduction of social inequality can be defined, rather simply, as the intergenerational reproduction of inequality in life chances. At the same time, the theoretical model developed in the previous section also demonstrates the conditions under which the education system functions as an inequality-reproducing device. If the school system did not hold a monopoly over occupationally-relevant credentials, and if the occupational value of academic titles were negligible, the education system might not be an instrument for the reproduction of social inequality. If the variety of academic credentials was not organised as a pyramid with scarce and sought-after titles at the top, and if these degrees were not allocated via an educational competition, the education system might not be an instrument for the reproduction of social inequality. And, finally, if educational opportunities were not distributed unequally according to students' social origin, the education system might not be an instrument for the reproduction of social inequality.

The contribution of education systems to the reproduction of an unequal distribution of life chances from generation to generation is *contingent* on a specific organisation of educational structures. But it is also *partial*, depending on the extent to which the combination of these three mechanisms determines broader life chances. The magnitude of the education-based reproduction of social inequality is an *empirical* question. And, in the early years of the twenty-first century, the answer to this question is simple: even in some of the most egalitarian countries, such as Sweden, intergenerational factors "beyond an individual's own full control account for a considerable share of inequality of outcomes which are very important in life. This

raises concerns about substantial inequality of opportunity in modern societies” (Björklund & Jäntti, 2012, p. 473).

In recent years, a group of researchers has attempted to estimate the long-run degree of equality of opportunity at the top of the occupational and income scales. Gregory Clark and his colleagues have used the statistical representation of certain family names in prestigious universities, elite occupations, postgraduate degree registers, estate records, and high-income tax returns in comparison to their share of the entire population, in order to assess the degree of openness of the upper segments of the opportunity structure over three or more generations (Clark, Cummins, Hao, & Vidal, 2014). Their results suggest that the distribution of opportunities to access the upper-end of the occupational structure not only displays slow rates of social mobility; this distribution of opportunities for accessing the upper echelons of the educational and occupational pyramids is also significantly more socially reproductive than estimates focusing on parents and children (two generations) only, even for ‘egalitarian’ countries such as Sweden. Analysing this country, in which the distribution of opportunities is often considered fairer than in most other countries in the world, the authors concluded that “the representation of surnames among both attorneys and physicians in Sweden suggests [that] social mobility [at the top of the occupational pyramid] in Sweden is much slower than the conventional estimates suggest, even for very recent generations” (Clark et al., 2014, p. 34).

The case of attorneys and medical doctors is specific, as both of these are part of long-established liberal professions. In fact, it appears that the distribution of opportunities for accessing prestigious professional jobs is often less fair than the distribution of opportunities for accessing other jobs (even other upper-end sought-after jobs). In Australia, for instance, Mark Western (2000, pp. 96-97) commented that “professional and managerial jobs are scarce, and offspring from professional and managerial backgrounds are disproportionately likely to have tertiary qualifications required for such privileged [occupations]”. At the same time, he also noted that the intergenerational reproduction of managerial jobs is not as systematic as the one in the professions, precisely because access to managerial occupations is less credentialised than access to the professions (Western, 2000, p. 100).

1. Reproduction and (re)production

As we have seen, the unequal distribution of life chances is never reproduced over generations in a totally unchanging manner. On the other hand, the distribution of opportunities is never completely transformed from one generation to the next either. Analytically, the reproduction of social inequality is always situated on a scale between two theoretical end points. At one end, we find a duplicative reproduction (with the same unequal distribution of opportunities one or more generation(s) apart) and, at the other end, we find a complete transformation of life chances (with an integral reshuffling of opportunity distribution from one generation to the next).

The fact that the intergenerational reproduction of social inequality is always a qualified reproduction calls for terminological cautiousness. Should we use the term ‘reproduction’, or would it be better to use other terms, such as ‘transformation’? There have been various debates in the literature regarding the potency of the concept of ‘reproduction’ in the sociology of education. Soon after the publication of Bourdieu and Passeron’s *Reproduction in Education, Society and Culture* in 1970, Antoine Prost (1970, pp. 858-859) argued that their reproduction theory was not a fruitful way of looking at the relation between schooling and society. For him, Bourdieu and Passeron’s argument undermined the possibility of thinking about transformation and change, it produced a sterile sociology, and it could easily lead one to despair (Prost, 1970, p. 859). Raewyn Connell put the same argument forward some years later. For her, Bourdieu’s concepts of ‘cultural capital’ and ‘social reproduction’ were too static (Connell, 1993, p. 29). She has reiterated her claim more recently by explaining that the concept of ‘social reproduction’ is “far too static [and] in terms of practice, [...] leads either to complacency or despair” (Connell, 2015, p. 187).

There are two important points to make in response to these criticisms. First, the authors are specifically criticising Bourdieu’s 1970 book on reproduction in education, as well as his concepts for thinking about social reproduction, rather than reflections on reproduction in education in general. A number of other theories have developed critical analyses of the part played by the school system in the reproduction of the social order. Second, Connell criticises the overall theory of *social reproduction* put forward by Bourdieu, but she does not refuse to look at the reproduction of *social inequality* in particular. In fact, what these critical responses highlight is the need to have a broader understanding of the issue of social reproduction mechanisms than simply focusing on

Bourdieu's (1977 [1970]) *Reproduction*. For the researcher interested in education, reading some of Bourdieu's other writings (Boltanski & Bourdieu, 1975; Bourdieu, 1994, 2000 [1971]) and other researchers who have used the concept of reproduction in the context of education (Apple, 2004 [1979]; Bernstein, 2000 [1996]; Bowles & Gintis, 2011 [1976]; M. F. D. Young, 2002) can prove to be useful. At the same time, these criticisms enjoin us to depart from an analysis focused on the rather vague notion of 'social reproduction' toward a more precise analysis based on a concept such as the *reproduction of social inequality*, as I have done in this chapter.

Bourdieu himself repeated, especially in *The State Nobility* (1996 [1989], p. 167), that the academic mode of reproduction of domination is neither a random throw-in, nor a mechanical reproduction. His reasoning for using the concept of reproduction was motivated by the fact that the current school-mediated distribution of social inequality is "infinitely closer" to direct heredity transfer than to random draw (Bourdieu, 1996 [1989], p. 288). In their thorough study of intergenerational reproduction across 10 countries (including Australia), John Ermisch and his colleagues (2012b, p. 472) concluded that the net effect of education systems "is not to reduce the relationship between parental SES and child achievement, but to maintain or strengthen the patterns of differences in outcomes already evident at younger ages". Education systems do not contradict the intergenerational perpetuation of social inequality, if social inequality is defined as the unequal distribution of life chances. In their recent study of the superior segments of the opportunity structure across several centuries, Clark and his colleagues (2014, pp. 8-9) reached a similar conclusion. Acknowledging both the utility of the concept of reproduction and its limitation, I propose to use the term '(re)production' as a possible solution to this terminological debate whenever the extent to which the distribution of life chances is socially reproduced over generations is uncertain. When the unequal distribution of life chances between social groups—that is, the *relative position* of social agents in the opportunity structure—is significantly reproduced over one or more generations, it is legitimate to retain the concept of 'reproduction', so long as it is adequately defined.

The unequal distribution of opportunities is produced and, in some cases, it is significantly reproduced from parents to children. To encompass the indeterminacy in the stability of the distribution of opportunities over time, the concept of (re)production seems fitting in cases where the reality of reproduction is undetermined. From this point

onward, I will thus apply the term ‘reproduction’ to settings where a significant stability in the unequal distribution of opportunities over generations is empirically valid, and I will use ‘(re)production’ to cover the generic process of more or less stable unequal distribution of opportunities over time when the facticity of reproduction is indeterminate.

The school system never perfectly reproduces social inequality over generations, nor does it completely redistribute life chances in a way that is unrelated to the past distribution of opportunities. What Wacquant (1996 [1989], p. xvi) terms the “specific contradiction” of the school-mediated mode of reproduction of domination is that it works only statistically, thus creating potential conflicts between the collective interest of the social groups who are statistically likely to benefit from the education-based structuring of opportunities and the interest of the portion of its members that are sacrificed in the process of this statistical reproduction. Against a mechanistic reading of his theory of reproduction, Bourdieu (1996 [1989], p. 287) actually emphasises that the specificity of the school-mediated mode of reproduction is precisely its *statistical logic*.

In his famous *Distinction* (2010 [1979]), Pierre Bourdieu proposed, in passing, a theory of the structures of ‘social reproduction’, that is, a theory of the main features determining the degree of intergenerational reproduction of the opportunity structure in Western societies. As part of a longer enumeration, he identified three core components shaping the profile of the (re)production of social inequality: (1) inheritance law and customs, (2) the field of labour, and (3) the education system (Bourdieu, 2010 [1979], p. 125). Bourdieu insisted that societies (re)produce their unequal distribution of life chances not by a kind of taken for granted magic, but by essential social processes and practices shaped by institutions and structures contributing to the (re)distribution of opportunities over generations. He concluded that the conditions of the instruments of reproduction of opportunity depend, in the end, on the social distribution of power (Bourdieu, 2010 [1979], p. 125).

In this chapter, I have proposed a refined theory of one of the instruments of the (re)distribution of life chances: the education system. I have outlined three core features of education systems that determine their participation in the social distribution of life chances. In this model, the education system can often be used as a strategic site for the intergenerational transmission of privilege (Connell, 2015, p. 187) precisely because

“the academic title plays a crucial role in the reproduction of the social order” (Bourdieu, 1996 [1989], p. 375). Nevertheless, Bourdieu’s earlier remarks on the opportunity structure of occidental societies remind us that the contribution of the education system to the (re)production of social inequality is partly determined by the state of the other two pillars of the opportunity structure, as well as their triangular relations.

2. Educational opportunities and outcomes

So far, I have described the unequal distribution of educational opportunities based on one’s social origin as one of the three pillars of the opportunity-defining structures of the education system. I can now provide an overview of what these educational opportunities are. At a general level, educational opportunities are not limited to the chances of acquiring sought-after and occupationally-profitable credentials, as the utility of education cannot be reduced to its credentialing power. In fact, the various kinds of *developmental* opportunities that formal education can offer to students are socially useful and represent one of the chief missions that teachers assign to their own work. Nonetheless, I will leave developmental opportunities aside in this work and focus more specifically on educational opportunities in the context of the credentialing function of education.

From a credentialing point of view, educational opportunities are education-based chances to unlock new opportunities. Accordingly, the *academic results* of students are a crucial dimension of their educational opportunities. Educational opportunities can be categorised into two groups. The first kind of opportunity results in the creation of *occupational* opportunities, while the second kind of opportunity results in the creation of *further educational* opportunities. Typically, the first type of opportunity is represented by courses and degrees in which the outcome is directly occupationally relevant. These *terminal educational opportunities* tend to sit at the very end of a student’s educational ascension. The most occupationally valuable of these educational opportunities tend to be found on the highest rungs of the educational system, within the universities. The second type of opportunity represents opportunities to access subsequent levels of education, schools, universities, courses, diplomas, and degrees that one wishes to attain or obtain. These can be thought of as *preparatory*

educational opportunities. The succeeding educational sites these opportunities make available can be either preparatory or terminal, but they always determine further educational and/or occupational chances.

Students need to receive multiple preparatory educational opportunities before being given an educational opportunity that will be occupationally relevant for them. At the same time, there is no objective and definitive classification of schools, universities or degrees into one category or the other. A bachelor's degree can be either preparatory or terminal, according to the student's desire to pursue a postgraduate degree or to find a job after her graduation. A given educational opportunity can be terminal for some and preparatory for others, and the status of educational opportunities is determined subjectively. However, the educational opportunities that are necessary (yet often insufficient) for accessing the upper layers of the occupational pyramid tend to be university-level opportunities. This is particularly true for jobs in highly-credentialised occupational sectors, such as the health professions.

When a student passes a course or obtains a degree, her results are both the outcome of her study in the course and a potential new opportunity for further study or claiming occupational chances. Given the serial organisation of education systems, where new educational opportunities become available only once the student has completed the requirements of the lower-level course of study, it is necessary to examine students' educational outcomes if one wishes to understand the distribution of educational opportunities between different social groups and, ultimately, the contribution of the school system to the (re)production of life chances inequality.

3. The International Baccalaureate Diploma Programme and educational opportunities

In most Western countries, senior secondary education largely functions as a preparatory educational opportunity for post-secondary education. Secondary education outcomes are more or less valuable tertiary education opportunities. In many cases, students who complete their senior secondary course of study attempt to meet the requirements necessary for their eligibility to the higher education course or degree of their choice in the university they aim for. In Australia, for example, the distribution of

educational opportunities for university access is based, amongst other things, on a standardised senior secondary educational competition, whereby all students wishing to enrol at a university obtain an Australian Tertiary Admission Rank (ATAR), calculated using their scores in the different subjects that make up their final year of study. Universities departments establish a minimum ATAR rank for being eligible to apply for a place in a given degree, so that ATAR ranks function as gatekeepers to sought-after degrees and institutions. The degrees characteristically leading to the most economically rewarding and prestigious jobs tend to have higher ATAR requirements than the degrees typically leading to positions lower in the occupational structure. Even though the conditions of competition vary from country to country, a competitive model for allocating positions in oversubscribed institutions and courses is the norm.

Despite its apparent uniformity and universality, the senior secondary academic competition common in many Western countries hides a far more complex reality. Paying attention to students' outcomes based on their social origin is insufficient for understanding the distribution of educational opportunities, because education systems are *highly differentiated*. The differentiated nature of educational systems can be defined as their heterogeneous organisation in the supply of educational opportunities. Students are enrolled in different schools, located in the public or private sectors, in various states or territories. Within their school, they can be part of different tracks or streams, classrooms, and groups of students. Students can also choose between different subjects, vocational or academic courses, and curricula for completing their final years of secondary education. Accordingly, at the curriculum-level as much as at the system-level and school-level, the degree of educational differentiation partly determines the distribution of educational opportunities.

I define as processes of *educational differentiation* all the transformations of educational structures leading to an increase in the degree of heterogeneity in the supply of educational opportunities. The differentiation of educational structures creates different categories of opportunities where only one category previously existed. For that reason, the differentiation of school systems enjoins the researcher interested in grasping the structure of educational opportunities to examine the consequences of educational differentiation. If certain schools are more successful at unlocking further educational chances than others, the educational opportunity structure is shaped *vertically* by this form of educational differentiation. In such a context, attending one

school or another implies being given superior or inferior educational opportunities. The same reasoning applies to different tracks, different school sectors, different curricula, and so on. It is because education systems are highly differentiated and regularly reconfigured by new processes of educational differentiation that analysing the educational outcomes of students based on their social background is insufficient for grasping the complexity of the educational opportunity structure.

Sociologists of education have unravelled multiple mechanisms by which students from privileged social origins tend to obtain superior educational opportunities. Amongst these, the structures of the education system, the structure of the curriculum, and out-of-school differences between students from different economic and cultural backgrounds are essential and interact with one another. As part of the differentiation of educational structures, a number of researchers have paid attention to ‘streaming’ or ‘tracking’ questions as forms of within-school differentiation. In schools with different tracks, students enrol in different courses of study based on their previous achievement, academic ‘ability’, or aspirations. However, there is another form of educational differentiation that has received very little attention from the perspective of the distribution of educational opportunities. The emergence of *alternative curricula* is a new form of educational diversification that creates both between- and within-school differences. Amongst these new curricula, the International Baccalaureate (IB) Diploma Programme (DP) is arguably the most popular. The DP is a study program for the final two years of secondary education. It is designed as a preparation for university education and is available in most Western countries. In each country, it is present in a relatively limited number of schools only, but it offers an alternative study option to the standard local or national curriculum.

The present thesis contributes to our understanding of the relationship between curriculum alternatives and the education-based (re)production of social inequality. I analyse a particular case of alternative curriculum—the DP—to answer a set of interrelated questions about the social distribution of educational chances. What are the implications of the emergence of the DP for the structuring of educational opportunities? In what way does it take part in the educationally-based reproduction of social inequality evident in most countries? Does it tend to contribute to the reproduction of social inequality by adding a new mechanism to the unequal distribution of educational chances based on students’ social origin? Or does it tend to

contribute to a fairer social distribution of educational opportunities by limiting or even rebalancing the unequal distribution of educational opportunities based on students' social background? If it contributes to the reproduction of social inequality, is it an advantageous educational site (offering superior educational opportunities to students from privileged social origins) or a disadvantageous one (offering inferior educational opportunities to students from disadvantaged social backgrounds)? In this work, I attempt to answer these questions in the case of the Australian education system.

Chapter Two

The International Baccalaureate Diploma and the Reproduction of Social Inequality

In this chapter, I analyse the International Baccalaureate Diploma Programme as part of the structure of educational opportunities. First, I deconstruct the unsound foundations on which discourses about the IB are too often constructed. The powerful notion of an ‘IB education’ exemplifies some of the issues arising from such discourses. Second, I construct a substitute analytical apparatus for researching the insertion of the DP into the system of the (re)production of social inequality. The key concept is to approach the DP as an alternative curriculum. Third, I use the existing research literature to ground the empirical investigation developed in the rest of the thesis. A number of publications on the DP in Australia and internationally permits (1) a contextualisation of the analysis of the DP in the Australian context, and (2) a breakdown of the three dimension of the DP opportunity.

I. The International Baccalaureate organisation

1. Overview

The International Baccalaureate was founded on 25 October 1968 in Geneva (International Baccalaureate, 2014a, p. 17). The IB organisation is a not-for-profit foundation that has developed four curricula available from preschool to the end of secondary school (for students aged 3-19). The IB sells implementation rights for its curricula to individual schools, sometimes through agreements with educational authorities. On top of the annual membership fee schools pay for offering one or several of the IB programs, they are also responsible for funding the professional development of their teaching and managerial staff, in order to comply with the qualification requirements established by the IB organisation. At the secondary level, the

organisation has also developed standardised examinations that are available to all students enrolled in the corresponding program. IB charges an examination fee for students and their families wishing to obtain one of the IB credentials (at the end of junior or senior high school).

After its first 25 years of existence, the IB organisation decided to develop new programs to complement its originally single curricular offering. The Middle Years Program (MYP) was born in 1994, for students aged 11 to 16; the Primary Years Program (PYP) emerged in 1997, for students aged 3 to 12; and the latest curriculum, the Career-related Program (CP), was launched in 2011 for students aged 16 to 19. Yet the seminal and most influential IB curriculum remains the Diploma Programme (DP), for students aged 16 to 19 expecting to study at university after graduating from high school.

As of December 2015, there were 4,372 schools in the world implementing at least one of the IB curricula (International Baccalaureate, 2015c). More importantly, at the same date, there were 2,933 schools implementing the DP, far more than the sum of all schools implementing one (or more) of the three other IB programs combined⁶. The IB organisation might still be relatively unknown to most, but its current planetary vitality would make any educational provider envious. The twenty-first century tale of the IB is a tremendous success story. With a global growth in IB program implementations of more than 46 percent in the last five years (between February 2011 and February 2016) (International Baccalaureate, 2016d), the IB organisation is definitely a fashionable player in school education worldwide.

Over two-thirds of all IB schools (67 percent) implement the DP. The DP is the first and longest existing IB program. It is also the program experiencing the highest rate of implementation growth, especially since 2014 (International Baccalaureate, 2016d). For these reasons, the IB pre-university curriculum certainly is the dominant IB program, especially when it comes to analysing educational opportunities. It is therefore on the DP that I am going to focus in this project. Important to the long-lasting and growing success of the program, the DP credential is accepted as a university entrance passport in virtually all the most prestigious institutions in the world, such as the

⁶ In 2015, the PYP was present in 1,329 schools worldwide, the MYP in 1,226 schools, and the CP in 87 schools (International Baccalaureate, 2015c). Numerous schools offer more than one IB program, hence the fact that the sum of schools implementing each program does not correspond to the total number of IB schools. As of December 2015, there were 2,196 schools implementing one or more of the three IB programs (PYP, MYP or CP) other than the DP, versus 2,933 schools implementing the DP.

universities of Oxford, Cambridge, Melbourne, Sydney, Harvard, and the Massachusetts Institute of Technology (International Baccalaureate, 2016i).

As one plunges into the IB ‘world’, it soon becomes evident that a dense web of discourses⁷ surrounds the IB programs and practices. The highly skilled marketing campaigns administered by the organisation, in promoting itself to persuade all categories of educational agents (students, parents, teachers, schools, groups of schools, universities, or even governments) of the quality of its products, contributes to this discursive density. But there is also a plethora of laudatory comments, opinions, and points of view on the IB that do not originate from the organisation yet make up a large part of the flow of words and ideas about the IB and its programs. For that reason, it has proved necessary to deconstruct the way the IB is framed in these discourses. I have thus examined the most essential notion used to talk about it.

2. An ‘IB education’?

In order to analyse the DP educational opportunity sociologically, I have been led to break with the dominant discourses about the IB organisation and its virtues. I have exemplified this break with common-sense notions by focusing on the term ‘IB education’. The way the IB organisation is portrayed in ‘IB education’ terms tends to prevent an examination of the DP in terms of educational opportunities. The process of deconstruction of common-sense discourses follows Gaston Bachelard’s (2002 [1934], p. 24) epistemological recommendation: in order to think about knowledge scientifically, we should think about the obstacles standing in its path. This method is all the more important since the existing sociological research on the IB has a fairly low profile. As Catherine Doherty and her collaborators confirm, “there has been little rigorous empirical research on the IB. Published work tends to be practice- or advocacy-based, anecdotal, small scale survey with convenience samples or essayist critique” (Doherty, Luke, Shield, & Hincksman, 2012, p. 314).

A widespread common-sense notion to deconstruct is the idea that there would be such a thing as an ‘IB education’. In its attempt to create an ‘IB continuum’ by stressing the continuity between the successive IB programs (International

⁷ ‘Discourses’ here refers to the written or spoken communications or debates regarding the IB organisation, IB programs, and the education of IB students.

Baccalaureate, 2014q), the IB organisation has developed the concept of an ‘IB education’ (International Baccalaureate, 2013h). This concept has then been taken up in media articles (Tohid, 2011); by schools implementing IB programs, including in Australia (McAuliffe, 2015; Woodcroft College, 2016); and even in independent research publications (van Oord, 2012, p. 214). One has to be cautious against the spontaneous appeal to reify the idea of an ‘IB education’. The reason for this prudence is simple. First, there is a significant internal variability in the panel of IB educational offerings. Second, there is a large contextual variability in the implementation of IB programs across the world. In other words, the two domains in which this illusion of coherence makes us miss the most essential features of the IB are (1) the uniqueness of each of the four programs offered by the IB organisation, and (2) the differences between the numerous national and local contexts in which IB programs are implemented. This double variability is sufficient to undermine the coherence of the ‘IB education’ notion.

First, the organisation offers different programs, and there is no reason to assume that these programs are similar in their shaping of the educational opportunity structure. This ‘internal’ differentiation is not only valid in different countries, but also within a given country. In Australia, for instance, the PYP and MYP are available for schooling years at which education is compulsory and not as highly competitive as it is at the end of secondary education. The fact that primary and junior secondary academic titles are less directly determining for future occupational opportunities implies that they do not bear the scars of educational competition and its associated social stakes as much as the Diploma Programme (DP), the IB pre-university qualification⁸. The place and role of standardised examinations is a momentous difference between the various IB programs: “the Diploma [seems] to be much more rigid, prescriptive and academically demanding [than the other IB programs], a consequence of external examinations based in part on prescriptive university expectations” (Stobie, 2007, p. 148). The more limited importance of external examinations in the PYP and MYP makes these programs less amenable to altering significantly the educational opportunity structure than the DP. As a result, the degree of curricular freedom and

⁸ Nevertheless, Richard Teese explains how, in contexts where high school is a competitive site, middle schools (or junior high school) tend to display competitive features as well. Acting as a preparatory phase for a competitive senior secondary education, as it stands in Australia, middle-years schooling mirrors the high-stake nature of senior high school (Teese, 2007b, p. 4).

educational autonomy given to teachers also varies depending on the IB program considered, as the extent of external constraint is higher for the DP than for the PYP or the MYP.

The DP has been designed as a passport for accessing universities, including the most sought-after courses in the best universities, and is thus clearly the dominant locus of intense educational competition amongst all IB programs. This is particularly true in countries such as Australia, where the allocation of university places is determined on a competitive basis. The unequal weight of various IB programs on the educational opportunity structure is also evident in the comparison between the DP and the CP. Although offered for the same age group, it is clear that they are not comparable educational opportunities. While the CP is the vocational version of the IB senior high school credential, the DP is the academic, university-preparatory version of it. The latter is far more likely to indirectly provide upper-end occupational opportunities than the former. There is thus no reason to consider that there would be such a thing as an ‘IB education’, at least when the question of educational opportunities is posed.

Second, the major differences in the structures of educational opportunities between and within countries makes the idea of an ‘IB education’ unhelpful for grasping the bearing of IB programs on the educational opportunity structures in which they are implemented. Between-country differences in the structuring of educational opportunities need to be taken into consideration. For instance, the consequences of implementing a program such as the DP in a number of schools across the country will be different in a senior secondary education system that is highly competitive than in a less competitive system. The implications of implementing the DP in a school system where tracking practices are common-place are different from the consequences of its implementation in school systems where tracking practices are limited. Within-country differences also matter in grasping the bearing of IB programs on the educational opportunity structure, precisely because of the differentiation of education systems and the corresponding unequal distribution of educational opportunities. For instance, the opportunity consequences of implementing the DP are different for rich and poor schools, just as the consequences are not the same for socially-mixed and socially-segregated institutions.

In summary, thinking about the different IB programs in terms of an ‘IB education’ makes it more difficult to grasp the differences between the various IB

curricular offerings and the contextual complexity of IB implementations. Any thorough analysis of the position of an IB program in the structure of educational opportunities requires its author to grasp (1) the specificities of the context, (2) the specificities of the IB program under investigation, and (3) their interaction. This brief analysis of the ‘IB education’ is just one example of the difficulties that the researcher can encounter when using widespread and seemingly neutral notions. Bearing this epistemological reminder in mind, we are now in a position to examine the DP position in the school-mediated reproduction of social inequality in the Australian context.

II. The IB Diploma in Australia: a paradigmatic case of alternative curriculum

An important principle of research practice is to subordinate the *empirical* stage to the construction of the *theoretical* object (Bourdieu, 1988b, p. 776). Put differently, any research object can only be constructed and defined in terms of a “*theoretical problematic*” (Bourdieu, Chamboredon, & Passeron, 1991 [1968], p. 35, original emphasis). In the first chapter, I presented the education-based (re)production of social inequality as the theoretical problematic. Afterwards, I specifically focused on one of the three core components of this theoretical problematic: the social distribution of educational opportunities. Finally, I mentioned that this work would look at educational opportunities in a specific case: the Diploma Programme in Australia. Accordingly, I now need to introduce the concept that allows me to analyse the structure of educational opportunities in the case of the DP. I contend that the concept of ‘curricular alternative’ can serve this purpose.

1. The Diploma Programme in Australia

The IB Diploma Programme is offered as a two-year terminal certificate of secondary education, for students in Year 11 and Year 12 in Australia. The curriculum was developed as a pre-university course of study leading to a widely accepted credential. Students are required to select their subjects at the start of Year 11 based on the DP

subjects available at their school, and study these exact subjects until the end of Year 12. Importantly, students need to enrol in the program for both years in order to be eligible for taking the final examinations and being granted the DP credential.

The curriculum structure requires that students select six subjects drawn from as many subject groups, topped by a 'core' of three inter-disciplinary units, reaching a grand total of nine subjects. The minimum number of contact hours per subject is defined by the IB organisation; the syllabus for each subject is developed by the IB organisation; the bi-annual examination sessions are superintended by the IB organisation; the examination papers are generated by the IB organisation; the benchmark for individual grades in a subject is dictated by the IB organisation; the external assessment procedures are overseen by the IB organisation; and the final decision of conferral of the IB Diploma is at the discretion of the IB organisation. In other words, the IB organisation maintains full central control over its senior high school credential.

The final summative assessment system has been remarkably stable since the creation of the DP almost 50 years ago. All DP subjects are marked on a scale ranging from 1 to 7, a '1' mark being the worst score and '7' the best. Based on their results in the six compulsory subjects (plus three core components), students are required to reach a total score of 24 (an individual score of 4 on average per subject) in order to be awarded the Diploma. The three core units can only add to the DP score as potential bonus points (between 0 and 3). The DP is thus constructed on a 'pass or fail' model of certification. Nonetheless, the exact score obtained by DP students still determines students' university admission chances in Australia. Certificates of completion for individual subjects can be issued by the IB organisation. Since the creation of the DP, student pass rates have remained stable at 80 percent (International Baccalaureate, 2010d, p. 2). The average score has been 30, substantially above the score necessary for obtaining the DP (International Baccalaureate, 2010d, p. 2).

Globally, there were 62,276 candidates at the DP May 2013 examination session and 8,351 at the November 2013 examination session, for a grand total of 70,627 candidates for that year (International Baccalaureate, 2014a, p. 15). In Australia, most schools have chosen to present students at the November session, in line with the academic calendar for the rest of the country. At the latest DP November examination

session, in 2015, there were approximately 2,500 candidates from the Australasian region (Association of Australasian International Baccalaureate Schools, 2015a).

At the November 2015 session, more than 92 percent of the 2,160 candidates from Australian schools obtained the DP credential (Channel NewsAsia, 2016). Worldwide, the pass rate for the November examination session was superior to 80 percent in 2013 (International Baccalaureate, 2014a, p. 15), and it has remained stable over the years. If we look at the distribution of all subject scores combined, 81 percent of subject scores were '4' or better, and 74 percent of subject scores were '4', '5', or '6' in the May and November 2009 examination sessions (International Baccalaureate, 2010d, p. 2). While 7 percent of grades distributed were the top score (7 out of 7), 0 percent of grades were the lowest score (1 out of 7) and 5 percent the second lowest score (2 out of 7). These figures mean that perfect subject scores (7 out of 7) were more common than low scores (1 and 2 combined). The proportion of students scoring 6 or 7 (27 percent) was 50 percent superior to the proportion of students scoring 1, 2, or 3 (18 percent). This breakdown contributes to explaining the objective standing of the DP opportunity in the academic hierarchy of opportunities.

The IB organisation is arguably in a fairly unique situation of educational policy coordination with the Australian education authorities. Within this policy arrangement, the case of the DP itself is rather unique. The Australian Curriculum, Assessment and Reporting Authority (ACARA) established a recognition register online, where the educational programs developed by third parties (i.e. non-government organisations) and endorsed⁹ by ACARA are listed. Given that ACARA does not administer senior secondary schooling across Australia, the DP does not, unlike the PYP and the MYP, figure on that list (ACARA, 2013c). However, Australian researchers have compared the DP curriculum to the Australian Curriculum and assessed its alignment with the requirements of the Australian Qualifications Framework (AQF), concluding that the DP "meets the specifications for 'Senior Secondary Certificate of Education'" outlined in the AQF (Dixon, Charles, Moss, Hubber, & Pitt, 2014b, p. 6).

There are three broad policy components that determine the quality and distribution of the DP educational opportunity in Australia. First, government schools willing to implement the DP need to be granted approval from their educational

⁹ In order to appear on this register, the various programs go through a recognition procedure to assess their educational equivalence to the 'standard' programs.

jurisdiction. Each state or territory is entitled to accept or refuse the implementation of the DP in the schools it administers. As of December 2015, there were government schools implementing the DP in four states and territories: Queensland (6), the Australian Capital Territory (3), South Australia (1), and Victoria (1) (International Baccalaureate, 2015c). Non-government schools are free to implement the DP without direct governmental approval, provided that they meet the criteria established by the IB organisation for becoming member schools. Second, each year, the IB and Australian tertiary admission services engage in negotiation to establish a *direct conversion table* between IB Diploma scores and tertiary admission ranks (ATARs) for university entrance. In that process, the IB deals with decentralised educational administrations, such as the South Australian Tertiary Admission Centre (SATAC) and the Tertiary Institutions Service Centre (TISC). Crucially, the scores of IB candidates are scaled neither against non-DP students' results, nor against other DP students' results. Third, the IB organisation has endeavoured to secure agreements with all major Australian universities, one by one, since the 1970s. As a result, the DP has been granted a status for university application equivalent to (and sometimes preferential over) the local senior high school credentials in effectively all leading Australian universities (International Baccalaureate, 2016i). This widespread university acceptance seems to work as a de facto endorsement by the Australian higher education authorities of the suitability of the DP as a senior high school program for Australian schools.

How do schools go about implementing the IB Diploma? Individual schools wishing to implement the DP have to express their interest to the IB organisation. This initial step is followed by a thorough, often long and demanding authorisation process, where candidate schools are expected to meet the standards established by the IB organisation in a variety of domains, ranging from teachers' professional development to material infrastructures. Decisively, it is this regime of DP implementation, based on election of the DP by the school and selection of the school by the IB organisation, that is pivotal for grasping the DP position in the education-based reproduction of social inequality in Australia.

2. Alternative curricula and educational differentiation

In Australia, the IB organisation does not intend to replace the existing curricula, nor does it anticipate merging with the standard curricular offering. Although the situation has been evolving in recent years, with some national partnerships between the IB organisation and educational ministries in Ecuador, Japan, or Spain (International Baccalaureate, 2015d), IB programs have been designed as *alternatives* to the regular curriculum offered in different countries, first for high school students and progressively for all levels of schooling (except for tertiary education so far). Even if, in several contexts, IB programs are not used as simple alternatives anymore, they certainly are in Australia. It is this fact that has led me to conceptualise the DP in Australia as *a paradigmatic case of alternative curriculum*.

At the theoretical level, the DP program stands as a case of *alternative curricular production and consumption*. The organisation is engaged in providing an alternative to the mainstream educational offering. The term ‘alternative’ has been used occasionally to qualify the IB programs, by authors such as Catherine Doherty and her colleagues, in their study describing the DP as a “*branded alternative in private and government schools with local catchments*” (Doherty et al., 2012, p. 311, original emphasis), or Paul Tarc (2009, p. viii) in his world history of the IB. With the recent introduction of the CP, the IB organisation has attempted to construct alternatives to both academic and vocational education. However, while the IB has established its own academic subjects, it has not developed its own vocational courses and content, so that its products remain primarily alternative *academic* curricula.

One may wonder why this concept of curricular alternatives matters in this study of the DP’s positioning in the (re)production of social inequality. The reason is fairly simple. The existence of the DP as an alternative educational supply entails peculiar modes of educational allocation. In turn, these modes of allocation have implications for the social distribution of educational opportunities. On one hand, the DP can be offered in some schools while being unavailable in others, in which case the alternative between the DP and the state curriculum is a form of between-school differentiation of education. In such a situation, studying the (re)production of social inequality entails analysing the distribution of students from various social backgrounds across different schools. On the other hand, the DP can be offered alongside the state curriculum within certain schools, in which case the alternative between the DP and the regular curriculum

is a form of within-school differentiation. In this situation, studying the (re)production of social inequality requires a clear analysis of the distribution of students from various social backgrounds in the DP and non-DP tracks within 'DP schools'.

In most countries, including in Australia, the DP is both (1) implemented in some schools but absent from others, and (2) implemented alongside the state curriculum in some of the 'IB schools'. In other words, the introduction of the DP in Australia has led to a double process of between- and within-school differentiation. This dual differentiation has strong implications for the distribution of educational chances. The authorisation of an alternative curriculum transforms the structure of educational opportunities by introducing an *additional layer of educational differentiation*. The differentiation of school systems in various schools, tracks, sectors, subjects, classrooms, or even types of curricula (vocational or academic) is common. But the introduction of *alternative academic curricula* is a comparatively new form of educational differentiation, the implications on the educational opportunity structure of which have not yet been studied to a great extent.

A regime of curricular alternatives can be defined as the provision of two or more curricular offerings that function as *substitute goods* (i.e. students can opt for one or the other) for obtaining a given outcome, and for which production and consumption are regulated under a formal regime of *choice*. Whereas schools are often required to offer the 'standard' curriculum, the implementation of alternative curricula, as well as students' allocation to one or another of the curricular alternatives available, is left to the discretion of schools and students. The extent to which choice is available to all students and the conditions of choice can vary, but the standard model of allocation formally remains based on choice. Streaming or setting practices usually separate students into groups destined for distinct educational futures. With regimes of curricular alternatives, the novelty is precisely that two or more curricula can offer comparable opportunities to students with the same educational aspirations.

The introduction of curricular alternative regimes, as with any form of educational differentiation, has the potential to contribute to the reproduction of social inequality if students in one of the alternatives come from more privileged backgrounds than students following the other curricular paths. For instance, if students in the DP were more socioeconomically advantaged than those who study the state curriculum, the introduction of this new dimension of educational differentiation would have led to

a new form of socioeconomic segregation in the school system. Yet, taken by itself, this segregation would be insufficient for evaluating if the DP had contributed to the reproduction of social inequality. For this statement to be empirically valid, another condition would have to be met: the DP would need to be a *better opportunity* than the state curriculum.

In general, the introduction of any form of educational differentiation tends to contribute to the unequal distribution of educational opportunities, for two alternative educational ‘sites’ (schools, systems, tracks, subjects, or curricula) rarely offer exactly the same level of opportunity to their students. However, a new form of educational differentiation contributes to the reproduction of social inequality only if (1) the educational opportunities available in at least one of the newly differentiated educational sites are superior to the opportunities available in the others; (2) at least one of the newly differentiated educational sites is associated with students from more privileged social origins; and (3) the sites with the more socially advantaged students are the sites where better educational opportunities can be found.

3. The case of the DP in Australia

In this chapter, I have argued that IB programs represent a new form of educational differentiation that has received little attention. I have also explained that the DP is quantitatively, symbolically, and historically, the number one IB program. However, I have not yet explained why it is judicious to focus on the implications, for the structure of educational chances, of implementing the DP in Australia. In this section, I argue that the presence of the DP in the Australian context constitutes a strategic configuration that deserves to be studied in depth. There are three principal reasons for that.

First, the choice of the country is pertinent for its IB dimension. Australia is one of the major countries of implementation for the IB organisation. As of 2013, the country ranked third in the world in number of IB implementations with 151 schools, behind the United States (US), with 1,470 schools, and Canada, with 327 schools (International Baccalaureate, 2013d). In June 2016, Australia remained the country with the fourth highest number of IB schools (the broad agreement between the IB organisation and the Ecuadorian government had led to the implementation of IB

programs in 255 schools across the country) (International Baccalaureate, 2016c). With its total of 169 schools as of June 2016 (International Baccalaureate, 2016b), Australia gained an additional 12 percent of new schools in the space of three years. In addition, if we look at the number of IB schools as a percentage of the total resident population for the 10 countries with the highest number of IB schools, Australia ranks third behind Ecuador and Canada¹⁰.

If we focus on DP implementations exclusively, Australia ranks tenth in the world (International Baccalaureate, 2016f). This position is not as high as the overall ranking of Australia for all IB programs, yet high enough to make Australia an important player in terms of DP presence. Moreover, amongst the nine countries with more DP schools than Australia, only one (Ecuador) has a smaller population than Australia. The absolute and relative positions of Australia in the distribution of schools implementing the DP across the world makes it a relevant country for analysing the implications of introducing a senior secondary alternative curriculum into the distribution of educational opportunities.

Second, the choice of Australia is also important for the country's educational structures. Beyond the prominent position of Australia among the landscape of DP implementations throughout the world, it is the distinctive features of the Australian school system that warrant producing a detailed analysis of the DP situation in the country. I am here referring to the neoliberal reforms that have progressively transformed the Australian education system. Wacquant (2009 [2004], p. xxiii) saw the US as "the living laboratory of the neoliberal revolution", at least in penal matters. Australia is another potential living laboratory of the neoliberal project, but in the case of education.

Although Australia is not as advanced on the neoliberal path as the United States (US) or the United Kingdom (UK) in many domains, it is definitely ahead of the neoliberal game in education. Since the 1980s, extensive neoliberal reforms have taken place in Australia, particularly in the education system (Connell, 2013, p. 99). The country has been one of the leaders of neoliberal education reforms in developed countries, and even the OECD (2013c, p. 55) acknowledges that Australia is one of the most market-driven education systems in the world. Australia has been fittingly

¹⁰ The calculations are mine. As of October 2015, the 10 countries with the highest number of IB schools were, in order: the US, Canada, Ecuador, Australia, the United Kingdom (UK), India, Mexico, China, Spain, and Germany.

qualified by Joel Windle (2015, p. 1) as “an extreme case of marketized schooling”. This Australian specificity leads to an important question for the study of the social distribution of educational opportunities. How does the implementation of alternative curricula interact with neoliberal educational reforms for the structuring of educational opportunities? More specifically, what are the consequences of the emergence of curricular alternatives in a neoliberally-shaped education system for the social distribution of educational chances?

Third, the joint choice of the DP and Australia is relevant for the specific configuration of Australian senior secondary education with regard to the distribution of educational opportunities. The DP years are a strategic moment in the distribution of educational chances that determine future social inequalities. In Australia, the application for enrolling in university degrees leading to the upper-portions of the occupational pyramid (such as the professions) is a selective process. In fact, the degree of enrolment selectivity (the proportion of candidates refused entry into the program) is higher than the rate of failure or abandon during the degree, at least for the most occupationally-profitable university degrees. For instance, completion rates stood above 80 percent in health disciplines in the latest cohort survey (Commonwealth of Australia, 2014, p. 11), while offer rates were below 33 percent for dentistry and as low as 16 percent for medicine in 2015 (Department of Education and Training, 2015, p. 19). Therefore, being accepted into selective university courses often becomes the most crucial moment in a student’s educational career.

For students to access the superior parts of the occupational structure, one of the most important kinds of educational opportunity is being accepted into a sought-after course in an elite university. The weight of senior secondary academic results on a student’s life chances explains why numerous private tutoring companies, such as Talent 100, have specialised in preparing secondary school students to obtain the highest possible ATARs and to pass the other entry requirements for sought-after university courses¹¹. As Doherty (2012, p. 186) puts it, “access to desirable university placements is a pivotal, high stakes moment in life trajectories”. The final years of

¹¹ A common entry requirement for degrees leading to the health professions is the Undergraduate Medicine and Health Sciences Admission Test (UMAT) (Australian Council for Educational Research, 2015). For some degrees in the health professions, especially in medicine and dentistry, a number of universities across Australia have moved towards postgraduate courses only. In such cases, passing another admission test such as the Graduate Medical School Admissions Test (GAMSAT) (Australian Council for Educational Research, 2016) is often one of the requirements for applying.

secondary education are the most intense locus of positional competition (i.e. competition for surpassing others and being ranked above them on an established hierarchy) in education since the advent of mass higher education in Australia (Marginson, 1997b, p. 141).

III. Some landmarks in the study of the DP within the structure of educational opportunities

In the first chapter, I explained that, in order to evaluate the contribution of the DP to the reproduction of social inequality, one would need to examine the position of the DP in the structure of educational opportunities. One simple way for doing so it by assessing (1) the quality of the DP opportunity, and (2) the social origin of students enrolled in the DP. In other words, assessing what kind of opportunity the DP is, and who is given that opportunity, offers a systematic solution for grasping the contribution of the DP to the social distribution of educational chances. It is this two-dimensional model that I have used for scrutinizing the existing literature on the DP and for presenting the results of my empirical research.

In this section, I draw on existing research publications to understand the DP position in the distribution of educational opportunities. First, I analyse the works that have dealt with the further educational and occupational outcomes of DP students. Second, I evaluate studies of the socioeconomic selectivity of access to the DP. In order to be sensitive to the various contexts of inquiry, I also separate each of these two dimensions into two sub-sections: one referring to international or global studies, and the other one dealing specifically with studies of the Australian context.

1. The DP and future educational and occupational chances

a) International studies

A significant number of studies have highlighted the benefits of obtaining the DP credential for future educational opportunities, in terms of university access, outcomes,

and subsequent occupational outcomes. Most of these studies have been conducted in the US, where the DP occupies a very unique position in the educational landscape. In that country, 87 percent of schools implementing the DP are state schools (International Baccalaureate, 2016f). Despite the unicity of the DP landscape in the US, other studies have replicated these findings about the quality of the DP opportunity in different contexts.

In a study published in 1999 involving 12 universities in the US, Linda Duevel (1999, p. viii) found that 92 percent of IB diploma holders had earned their bachelor's degree. As many as 87 percent of them had obtained their undergraduate degree in 5 years or less, a percentage far superior to the ratio for the overall student population (Duevel, 1999, p. viii). This study was the first large, quantitative work to outline the statistical educational ascendency of the DP in the US. In another US study of 1,547 DP graduates who had enrolled at the University of California between 2000 and 2002, the research team performed a comparison between the DP population and 5,253 non-DP graduates. They found that DP students' GPA and their graduation rate were higher than the same outcomes for their non-DP fellows (International Baccalaureate, 2010a, pp. 4-5). These findings have been replicated in other US states and universities. A similar study found that DP graduates tended to have higher graduation rates and higher GPAs than non-DP graduates (International Baccalaureate, 2010c, p. 3). For DP graduates entering higher education in Florida between 2000 and 2001, a correlation between DP scores and university success (graduation rates) was observed. At the University of British Columbia, in Canada, DP scores were also a good predictor of academic success (International Baccalaureate, 2010c, p. 4).

Comparable results have been obtained in the US since the 2000s. For instance, in a 2005 study, DP graduates had higher college graduation rates than non-DP graduates (International Baccalaureate, 2013e, p. 1). The most recent large-scale US study was conducted on DP students who had graduated in 2008 (Bergeson, 2015). The author's findings are particularly reliable, for she was able to include the majority of US DP graduates in her sample. The results obtained by Liz Bergeson (2015, p. 2) were as follows: 92 percent of DP graduates had enrolled in post-secondary education between their graduation and 2014, and 78 percent had done so directly after high school. The first year retention rate of DP graduates was almost universal (98 percent), while the national average was more than 20 points lower (77 percent). This superior

performance in university access as well as success was confirmed with the six-year graduation rate: it topped 83 percent for DP students (including those who had not earned the DP credential but studied the program), more than 25 points above the national average (56 percent).

Generally speaking, the superior post-secondary educational performance of DP graduates holds true for both access and success in the US university system (Halic, 2013, p. 1). Olivia Halic's (2013, p. 2) research revealed that the four-year graduation rate for students who took the DP was 74 percent, almost twice as much as the national average (38 percent). In summary, the DP seems to constitute a superior educational opportunity in North America. Comparable studies have also started to emerge in other countries. For instance, a 2013 Chinese study of 1,612 DP students found that over 70 percent of DP graduates from Chinese schools had enrolled in the top 500 universities in the world (International Baccalaureate, 2014n, p. 2).

One of the most comprehensive studies of the post-DP educational and occupational chances of DP graduates was conducted in the UK. The Higher Education Statistics Agency (2016a, p. 6) compared the university and occupational outcomes of DP and A level graduates over six consecutive cohorts (from the 2007-2008 cohort to the 2012-2013 one), reaching a total sample of 46,155 DP and 1,200,930 A level graduates. The authors found the higher education prospects of DP graduates to be superior in many ways. DP graduates were more likely to enrol in one of the top 20 higher education institutions in the UK, and they were more likely to earn the highest grade for their university degree (Higher Education Statistics Agency, 2016b, pp. 2-3).

For international and local DP graduates enrolling in UK universities, DP students were 48 percent more likely to enrol in medicine or dentistry than A level students, and one-and-a-half times more likely to enrol in law (Higher Education Statistics Agency, 2016a, p. 17). However, DP graduates were less likely to enrol in biological sciences, physical sciences, mathematical sciences, or computer science degrees than A level students (Higher Education Statistics Agency, 2016a, p. 17). If we focus on UK students only (for both A level and DP), DP graduates were more than twice as likely to enrol in medicine or dentistry as A level graduates, while their lower interest for science degrees (biology, physics, mathematics, and computer science) remained valid (Higher Education Statistics Agency, 2016a, p. 18).

These results are interesting on several accounts. Not only do DP graduates enjoy better university opportunities and outcomes; they also seem to have a particular liking for degrees leading to superior occupational opportunities, especially in the domain of the health professions. This result becomes particularly salient when it is put in relation with an important finding from another study. In their analysis of the educational pathways of children from different social origins in the UK, Van De Werfhorst and his colleagues found “a significant overrepresentation of the fields of medicine and law among children from professional class backgrounds” (Van de Werfhorst, Sullivan, & Cheung, 2003, p. 52). Accordingly, the combination of findings from these two sources suggests that the DP appeals disproportionately to students aspiring to become professionals, especially in the health and legal professions. Given the high rate of intergenerational occupational reproduction in the professions, it is reasonable to hypothesise that the DP significantly appeals to professional families who may use the DP in their project of intergenerational reproduction of occupational privilege. This interpretation is congruent with the previous study’s claim that students “from professional backgrounds (especially, perhaps, the children of doctors and lawyers) may have been more likely to aspire to positions in medicine and law, since this would allow them to maintain the social class status of their parents” (Van de Werfhorst et al., 2003, p. 59).

On the other hand, DP graduates’ penchant for the most prestigious and elite categories of professional jobs does not seem to extend to all professions, as DP students tend to be less interested than graduates who studied the standard UK curriculum in scientific degrees. An alternative explanation for the overrepresentation of DP graduates in degrees leading to upper-end professions and their underrepresentation in degrees leading to scientific jobs could be that studying the DP makes students more interested in jobs in the health professions, and less interested in scientific jobs. While this explanation seems less plausible than the supposition that the DP recruits students who were interested in elite jobs in the first place, it is likely that a combination of these two types of explanation is at play, as parental expectations and the aspirations of peers both influence a student’s aspirations (Gemici, Bednarz, Karmel, & Lim, 2014, p. 30). In any case, it is at least fair to suppose that, in the UK context, the DP neither (1) deters students from pursuing their occupational aspirations towards high-end professional jobs, nor (2) ignites any passion or vocation for science

careers. Auspiciously, the Higher Education Statistics Agency study also reports on the early occupational outcomes of DP and A level graduates. This may clarify the comparative occupational aspirations of DP and non-DP graduates.

In line with their proclivity for degrees related to specific professions, DP graduates turned more frequently towards professional jobs than A level graduates after completing their undergraduate degree. DP university undergraduates who had completed their degree were 39 percent more likely to work in “professional, scientific and technical activities” than A level university graduates who also had completed their degree (Higher Education Statistics Agency, 2016a, p. 36). DP graduates were, on the other hand, 35 percent less likely to work in “wholesale and retail trade; repair of motor vehicles and motorcycles” jobs (Higher Education Statistics Agency, 2016a, p. 36).

DP university graduates were more likely to enter occupations at the top of the occupational hierarchy (“managers, directors and senior officials”, “professional occupations”, and “associate professional and technical occupations”) than A level university graduates, and less likely to enter any other segment of the occupational hierarchy (Higher Education Statistics Agency, 2016a, p. 37). Finally, DP graduates also appeared to be able to obtain superior economic rewards from their university degree than A level graduates for the same degree, as they had “a higher or equal median salary across all subject areas than their A level [university graduate] counterparts” (Higher Education Statistics Agency, 2016a, p. 39). In conclusion, graduating with the DP credential unambiguously constitutes a superior educational opportunity for broader life chances in the three major English-speaking Western countries. Accordingly, it seems reasonable to conjecture that the quality of the DP opportunity may also be superior to the standard curriculum in Australia.

b) Australian research

Australia is a context that has received a reasonable amount of attention from researchers interested in the DP. More than the repetition of statistical surveys on the same issue, the Australian body of literature has the advantage of providing in-depth analyses of some important indicators of the quality of the DP educational opportunity. Additionally, most of these studies have been published since the 2000s, allowing us to have an acceptable degree of confidence in the current validity of the results.

The most comprehensive study of the further educational career of DP graduates in Australia has been conducted by IGI Services (2012) for the IB organisation. This company has conducted similar surveys of DP graduates in several other countries, including India, the US, the UK, Mexico, and Canada. In their Australian survey, approximately one third of all Australian DP schools participated, and data were collected from 267 Year 12 students (including 60 percent of girls) (IGI Services, 2012, p. 3), for a mean of 14 students per participating school. Another noteworthy feature of the sample is that four out of five respondents were drawn from non-government DP schools (IGI Services, 2012, p. 8), a ratio that mirrors the proportion of non-government DP schools amongst all DP schools in Australia (International Baccalaureate, 2016f).

Based on all the responses collected by IGI Services (2012, p. 9), the mean DP score of Australian DP graduates was 37 and the median score was 38. This average score converts to an ATAR rank between 97 or 98 using the 2014 conversion scale provided by SATAC (SATAC, 2014), a rank that places the average DP student from an Australian school in the top two or three percent of senior high school students obtaining an ATAR rank. In other words, DP graduates from Australian schools tended to obtain far superior academic results than non-DP students at DP completion. Given the importance of ATARs for selective university entrance, the DP probably constituted a superior educational opportunity in Australia.

IGI Services (2012, p. 12) also reported that virtually all respondents (99 percent) wished to go into higher education. Even more interesting was the university-by-university aspirations of DP graduates. Almost half of the (202) respondents wished to enrol at one of the three following universities: the University of Queensland, the University of Melbourne, or the University of Sydney (IGI Services, 2012, p. 14). These institutions happen to be three of the most elite universities in the Australian higher education landscape¹². If we add the next two most favoured university destinations of DP students to this top three—Monash University and the University of New South Wales—it appears that the top five university destinations desired by DP graduates were elite Australian universities, all of them belonging to the Go8. DP graduates seem to have had not only superior academic outcomes, but also elite preferences (or dispositions) for superior higher education opportunities.

¹² These three universities are members of the Group of Eight (Go8), a small group of Ivy-league type Australian universities. These universities have been, historically, materially, and symbolically, dominating the landscape of Australian higher education.

The same report provides an in-depth analysis of the subject areas DP students were interested in. The four areas that each gathered the enrolment intentions of more than 10 percent of students were (1) health professions and clinical sciences, (2) business, (3) engineering, and (4) law and legal studies (IGI Services, 2012, p. 16). Almost 17 percent of the respondent intended to study a degree in the health and clinical sector, while more than 14 percent of them wanted to study a business degree. Based on this report, it seems reasonable to consider the DP as (1) standing on the top layers of the senior high school academic scale in Australia, and (2) a typical avenue to aspirations towards the professions and high-income occupations in Australia. If one adds engineering study intentions to the picture, another high-income occupation in Australia (Department of Employment, 2015, pp. 37-38), more than half (55 percent) of DP graduates aimed at degrees giving access to occupations yielding high material and symbolic profits (the professions, economically-oriented degrees, and engineering).

One could retort that the intentions to study a given degree at a given university do not mean that these aspirations were met by university offers. But the IGI Services study also provides information on that point: more than 80 percent of DP students' top intentions were met with an offer when it came to the degree of their choice, and almost 90 percent of DP students' aspirations were satisfied when it came to their university choice (IGI Services, 2012, p. 17). This proves that the DP was not only associated with high-end aspirations towards superior educational and occupational opportunities; the DP was also associated with success in these statistically selective and upper-end occupational endeavours. Of course, these results could be brushed off precipitously as anecdotal, based on the non-representative nature of the sample and the significant rates of non-response to some questions. Yet, with such a large portion of the entire DP student population surveyed, these results cannot be undermined so easily, and they do give an indication of the subsequent educational and occupational chances associated with the DP credential in Australia.

Another statistical study on DP graduates in Australian universities comes to supplement the findings of the previous one. In Daniel Edwards and Catherine Underwood's (2012, p. 8) research, the main provider of results was a large, Go8 selective university based most likely in New South Wales or Victoria. The authors collected data from 135 DP graduates at that university for their survey. They found that DP graduates (1) were more successful at university application than non-DP

graduates, (2) had a higher progression rate through the academic years, and (3) tended to complete their degree faster (D. Edwards & Underwood, 2012, p. 2). The comparative superiority of the DP opportunity in Australia thus appears to be supported by these research results. The DP was correlated with statistically higher further educational and occupational chances in Australia. Accordingly, there tended to be a degree of inequality in the educational chances given to DP and non-DP graduates, to the advantage of the former.

University employees in Australia and New Zealand were found to believe in the superiority of the DP. A large Australian study, involving 644 senior academic and administrative staff at 47 Australian and New Zealand universities, collected 159 usable responses complemented by 11 follow-up interviews (Coates, Rosicka, & MacMahon-Ball, 2007, p. 8). Most of the time, the DP was seen as a better preparation for university than state or other international certificates (Coates et al., 2007, p. 6; 32; 35). More specifically, 70 percent of respondents in Coates and his colleagues' (2007, p. 24) study affirmed that the DP provides its graduates with an advantage for university success. The same judgment emerged from data collected with Australian school teachers. In a study from Deakin University, Australian teachers considered the DP to be "more rigorous and provides better preparation for university studies" than the standard curriculum (Dixon, Charles, Moss, Hubber, & Pitt, 2014a, p. 4). Across the board of education professionals, and based on the statistical analyses of two different sources, it seems that the DP represents a better educational opportunity than the state curricula in Australia. In other words, the introduction of this alternative curriculum would have led to an additional layer of inequality in the distribution of educational opportunities to senior secondary education students in Australia, to the advantage of those studying the DP.

The different studies cited in this section reached convergent conclusions: the DP, in Australia as much as in other contexts, is associated with better educational and occupational outcomes than the other senior high school programs. However, without questioning the validity of these results, it must be noted that there are major limitations built into this combination of publications for the study of the quality of the DP opportunity in Australia. The three main limits of this literature are (1) the absence of school-level measures, (2) the limited degree of precision in the educational and occupational outcomes of DP students in Australia, and (3) the scarcity of details

available on the samples used for analysis. On the other hand, finding an inequality between two or more options in the educational opportunity structure is only the first step necessary for grasping the contribution of the regime of curricular alternatives to the reproduction of social inequality. Another question needs to be answered: what is the repartition of students from different social origins across the educational sites between which educational opportunities are unequally distributed?

2. The social topography of the DP

Research on the social background of DP students is rarer than investigations about the outcomes and future educational and occupational trajectories of DP graduates. Nonetheless, a small body of research has emerged on that topic, both internationally and in Australia. I have thus selected the best elements from the literature to combine empirical and theoretical insights.

a) International studies

In most international studies dealing with the social profile of DP students, the DP has been found to be socioeconomically selective, and economic resources have been considered as a determining factor for accessing the DP. The IB organisation has paid attention to this issue, making the objective of developing “a more diverse, inclusive IB community by enabling access to an IB education regardless of personal circumstances” one of the four goals in their strategic plan adopted in 2010 (International Baccalaureate, 2013f). Several researchers have observed that the DP opportunity is often reserved for students from privileged social backgrounds: Paul Tarc (2009, p. 117) noted that an “uneven access [to its programs] has been an enduring concern for IBO”; Catherine Doherty (2012, p. 184) reported the “consistent critique” of social elitism towards the DP; Hugh Lauder (2007, p. 441) argued that the IB idealism has been “overtaken by the economic and social class interests” at play at the global level; and Tarc (2009, p. 68) added that the “IB predominantly serves students from middle to upper class families”.

Looking at the DP at the global level, John Lowe (2000, p. 363) argued that ‘international’ credentials such as the DP are being used more and more by *local* elites

(rather than by international students or international schools, their initial customers), with the purpose of reproducing their advantage “in the face of growing educational competition”. The author is one of the rare analysts to have noticed that international examinations add a qualitatively new dimension to credentialism (Lowe, 2000, p. 363). Although his study was conducted only in developing countries and did not address the structure of educational opportunities in leading DP countries (such as the UK, Australia, or the US), Lowe addressed the social use of ‘international’ programs such as the DP in an original way. He concluded his analysis by arguing that international examinations such as the DP play an important role in the mechanisms of reproduction of class structures (Lowe, 2000, p. 374).

Once again, the large-scale study conducted by the Higher Education Statistics Agency in the UK provides insightful data regarding the social elitism of the DP opportunity. Based on an analysis of data for 2,800 DP and 155,740 A level students, it appears that DP students were more likely to come from privileged socioeconomic backgrounds than A level students (Higher Education Statistics Agency, 2016a, p. 11). More specifically, the study found that “higher proportions of IB students came from ‘higher managerial and professional occupations’ (37.3%) than A level students (28.0%)” (Higher Education Statistics Agency, 2016a, p. 11). This overrepresentation of elite professional and managerial jobs in the parental background of DP students gives credit to the hypothesis of an intensified usage of the DP by upper-end and occupationally-reproductive professional groups.

b) Australian research

In the Australian literature on the socioeconomic profiles associated with the DP, two research publications stand out: one has been authored by Catherine Doherty, Allan Luke, Paul Shield, and Candice Hincksman (2012), and the second one is the result of Daniel Edwards and Catherine Underwood’s (2012) research.

Catherine Doherty and her colleagues’ research involved senior secondary school students in Australia, as well as their parents. They obtained 231 responses from students (160 enrolled in the DP and 71 enrolled in the local curriculum) and 179 responses from parents (144 from parents of DP students versus 35 from parents of non-DP students), drawn from 26 schools offering the DP in Australia (Doherty et al., 2012,

p. 318). In other words, the authors possibly managed to survey more than half of all schools offering the DP in the country at the time. The online questionnaire sent to students' parents asked them to select, amongst several options, the income bracket that corresponded to their household income. The results were clear and statistically significant: DP students were more economically privileged than non-DP students (Doherty et al., 2012, p. 311). The inequality in students' backgrounds was not only visible in terms of economic resources: parents of DP students also tended to have a higher educational qualification than their non-DP counterparts (Doherty et al., 2012, p. 319). Specifically, DP students' parents were overrepresented in the highest income bracket and postgraduate qualification groups (Doherty et al., 2012, p. 328). These results support the hypothesis that the DP tends to contribute to the reproduction of social inequality in Australia by offering a superior educational opportunity to a population of students where privileged social backgrounds are disproportionately represented.

The second important empirical work on the social topography of the DP in Australia focused on students in Australian universities (D. Edwards & Underwood, 2012). Similarly to the previous research, this study also adopted a comparative framework involving DP students and non-DP students. Beyond revealing the academic success of DP graduates (mentioned in the previous section), the study found that DP graduates came from more advantaged socioeconomic backgrounds than non-DP students (D. Edwards & Underwood, 2012, p. 2). The authors established a very significant contrast in the distribution of DP students on the socioeconomic spectrum: most of the DP graduates interrogated (73 percent) came from a high socioeconomic background, while only very few of them (4 percent) came from a disadvantaged family (D. Edwards & Underwood, 2012, pp. 18-19). Edwards and Underwood's (2012, p. 8) research design, however, contains one major limitation: following the difficulties encountered in the collection of data, their results were drawn mainly from one single case (a large, Go8 selective university).

Despite this limitation, the overall trend in the research literature on the question of the social selectivity of access to the DP in Australia points to a significant degree of socioeconomic inequality between DP populations and non-DP populations. The strength of both of these studies lies in their adoption of a comparative approach, whereby DP students as well as non-DP students were surveyed (even though the

samples for non-DP students were limited in several ways). Importantly, both of these studies revealed a general trend while calling for further research. At the same time, the body of literature on the social topography of the DP in Australia presents the same gap as the corpus of research on the quality of the DP opportunity. Most studies focus on students and their comparative background or outcomes, but studies of DP schools are largely missing. The absence of system-level research is particularly problematic in the analysis of the social profile of the DP, for the schools in which the DP is implemented largely determine the profile of students enrolling in this alternative program. In the next chapter, I will detail the research design that has allowed me to collect data on DP schools as well as DP students.

Chapter Three

From Theory to Empirical Research

In this chapter, I outline the steps I have taken to progress from a theoretical questioning to an empirical study. I first present some elements of social theory that underpin the core of my analysis. I then address several epistemological issues, the discussion of which conditions a reflexive approach to research. Afterwards, I point at the theoretical and practical determinants of the methodological choices I have made to investigate the DP opportunity in Australia. I finally detail the procedures put in place for collecting, shaping, and making sense of the empirical material relevant for this project. In that final section, I discuss critical questions for the construction of the questionnaire, the qualities and limitations of the key indicators and variables I have used, sampling and ethical issues, as well as elements for understanding the analysis, presentation, and value of the study.

I. Social theory and the school-mediated (re)production of social inequality

The most purposeful way to use social theory is to approach it from a practical rather than a theoretical point of view. As such, social theory for its own sake matters little compared to social theory aimed at enabling sociological research and furthering the understanding of societies. The researcher can then draw on elements of social theory based on her sociological interests in order to enhance the power of sociological analysis and advance theoretical reflections. From that perspective, social theory itself is to be seen as a “research programme” calling more for practical testing than for theoretical discussion (Bourdieu et al., 1991 [1968], p. 255).

The direct consequence of this analytical posture is to start from the theoretical problematic on which the research object selected depends. In the present case, the education-based (re)production of social inequality constitutes the theoretical problem,

and the position of the IB Diploma in the Australian educational opportunity structure constitutes the research object. How can elements of social theory be crafted for grasping the intricacies of the theoretical problem through the research object? A possible answer suggests developing theory in the form of a conceptual apparatus to be used for empirical work.

Social theory actually resides in the *concepts* used for theoretical production; no theoretical achievement can do without them. Further, the concepts used and their web-like relations are at the very core of any social theory. As Kaplan (1964, pp. 54-55) has it, concepts and theory go hand in hand, and they can function only together. In the context of this research, there are two major theoretical components that can be marshalled for handling the theoretical problematic: one is a relational theory of social reality, and the other one is a dispositional theory of practice. This double stance aligns with the two lessons Bourdieu (1998 [1994], p. vii) considered as most important in his work: (1) a philosophy of science according primacy to objective and often invisible *relations*, and (2) a philosophy of action grounded in the relations between agents' *dispositions* and their contexts of action.

1. Relational sociology

A relational social theory can prove fertile for understanding the education-based (re)production of social inequality. Its usefulness can be deduced from the three core features of the education-based determination of life chances. From a relational point of view, the distribution of the superior opportunities (including academic results in the case of educational opportunities) has to be grasped *in relative terms*, that is, in comparison to the rest of the distribution (i.e. what other people get). While the relational mode of thinking can be applied to various dimensions of social reality, it is particularly useful for grasping the distribution of credentials. As Jonathan (1990, p. 121, original emphasis) puts it, the fact that education has an exchange value (in the occupational sector) implies that, as any other currency, the value of education “depends not on the amount of this good that an individual holds in absolute terms, but rather on the amount she holds *relative to others*”. From that perspective, the pool of educational credentials forms a “cultural currency system” (Collins, 1979, p. 57).

The applicability of a relational social theory to the social distribution of life chances (i.e. social inequality) is directly based on the shape of the opportunity structure. Given that some opportunities are considered superior to other opportunities by most social agents, the resulting homogeneity of preferences leads to a high demand for these opportunities. But the very superiority of these opportunities precisely rests on their limited number and comparative superiority: if all jobs paid approximately \$100,000 per year, people would not consider a job with this salary as a superior income opportunity. Accordingly, the supply of superior opportunities is necessarily limited whenever people's satisfaction partly comes from benefiting from scarce and sought-after opportunities. This discrepancy between the level of demand and the level of supply for such opportunities (or outcomes) creates a permanent situation of scarcity. In the case of superior educational and occupational chances, it is precisely their limited supply that makes these opportunities as valuable as they are.

A relational social theory reminds us that, in terms of credentials or jobs, the *quality* of an opportunity depends on the exclusion of many others from enjoying the same opportunity. For the study of opportunities, the relational mode of thinking facilitates the conceptualisation of educational advantage and disadvantage as ontologically linked. Indeed, from this angle, the two realities are “mutually constituted” (Kenway, 2013, p. 286), and privilege and deprivation are tied to one another (Kenway & Fahey, 2015, p. 111). Advantage exists precisely because disadvantage does. In a way, one could even describe advantage as the *cause* of disadvantage (and conversely) (Lahire, 2016, p. 101). One can make sense of superior educational opportunities only by comparing them to other, less beneficial educational opportunities.

Hirsch enjoins us to distinguish a new category of goods whenever the relational mode of thinking applies to them. For him, we should talk about these goods as neither public, nor private, but as *positional goods* (Hirsch, 2005 [1976], p. 3). A good is positional when it is “valuable to some people only on condition that others do not have it” (Hollis, 1982, p. 236). Prizes are typical examples of positional goods: their value for the winners only derives from the fact that the losers do not receive such prizes (Hollis, 1982, p. 236). But prizes are not the only category of positional goods. Academic credentials often function as positional goods as well (Marginson, 1997b, p. 38; 50). Hirsch (2005 [1976], p. 237) goes on to distinguish ‘direct scarcity’ (where

satisfaction derives from scarcity itself, i.e. the ‘snob effect’) and ‘incidental scarcity’ (where satisfaction derives from the good itself, but is affected by the number of people owning this good). While academic credentials can constitute a form of direct scarcity, their value for unlocking new educational and occupational opportunities constitutes a good example of incidental scarcity.

The most sought-after university degrees are valuable to some only because of their very limited supply. The best occupational and educational opportunities, precisely because of their scarcity and the fact that they are wanted by most, are positional goods. By definition, the demand for positional goods cannot be met with a matching level of supply: as Halliday (2016, p. 152) aptly explains, “giving every high school student a perfect grade point average (GPA) will lower the value of having that GPA”, and perfect GPAs will lose most of their appeal. Another paradigmatic case of positional goods in education is the Australian Tertiary Admission Rank (ATAR) system. The ATAR system gives students a *rank* in the distribution of Year 12 achievements rather than a score. The achievement of students becomes irrelevant compared to their position in the hierarchy or results, and an ATAR of 95 would be valueless if all students received an ATAR of 95. Since universities establish high ATAR requirements for applying to their most sought-after courses, they unashamedly wish to recruit the *best students* into these degrees, rather than students who have met a certain level of achievement in their previous studies. Accordingly, a relational analysis is de rigueur when examining students’ ATARs.

When the mechanism for allocating a positional good is a form of competition, it becomes a *positional competition*. According to Hirsch (2005 [1976], p. 53), a positional competition is a contest “that is fundamentally for a higher place within some explicit or implicit hierarchy and that thereby yields gains for some only by dint of losses for others”. When an academic competition determines the allocation of the most elite credentials of the education system, students are placed in a situation where they are bound to compete against other students if they want to obtain these credentials. In such a system, students struggle against one another to be *better than* their comrades in a given ranking, in order to become the elected minority to be selected for a prestigious course or granted a sought-after degree. In other words, the competition-based distribution of positional goods pushes schools, teachers, and students towards an

agonistic conception of education. In this situation, the broadly-supported ideal of 'equality of opportunity' conflicts with parents and students' self-interest.

A relational social theory has a practical consequence for research methods. Given that the educational 'game' and the 'race' for accessing prestigious occupational status is positional (or relative), it follows that a methodological precept I have abided by was to use *comparative tools* whenever relevant. It is only if students beat enough other students in the educational competition for ATAR ranks that they can unlock superior university opportunities. Given that my research object is the position of the DP in the structure of educational opportunities in Australia, I have applied this comparative method to the two principal features of the DP opportunity. First, I have analysed the *relative* superiority or inferiority of the DP opportunity, by analysing the comparative outcomes of DP schools and students, as well as the comparative (dis)advantage in the conditions and rules under which DP schools and students compete against the 'non-DP world'. Second, I have evaluated the *relative* social origin of DP students compared to non-DP students. Taken together, these two analytical dimensions make a systematic study of the DP opportunity and its place in the structure of educational opportunities in Australia possible.

The relational theory used for this project can be summarised by three research questions. First, regarding the further educational and occupational opportunities of senior secondary school students, do DP students perform *better* than non-DP students? Second, regarding the educational opportunities provided at the senior secondary level, are DP students offered qualitatively superior opportunities compared to their non-DP counterparts? Third, regarding the selectivity of access to the DP curriculum, do DP students originate from *more privileged* social backgrounds than other students? In each case, it is by using a comparative model that we can judge the DP position in the school-based reproduction of social inequality in Australia. In order to make this comparative analysis sociologically significant, I selected two levels of analysis: (1) the systemic level, by comparing DP schools to non-DP schools, and (2) the school level, by comparing the DP and non-DP cohorts in schools in which the DP is available. Combining these two levels of analysis makes it possible to construct a comprehensive representation of the position of the DP in the system of distribution of educational opportunities to different social groups in Australia.

2. Dispositional sociology

The social theory of practice underpinning this research project has as its central feature a *dispositional* theory, whereby social agents think what they think and do what they do based on the pool of dispositions that makes up their social being. This complex system of dispositions and competencies is, in turn, constructed through the experiences of the social agent, that is, her socialisation (Lahire, 2012, p. 25). While each individual's bundle of experiences is singular, it nonetheless exerts objective constraints on her and determines broad categories of objective possibilities (or chances) throughout her life. Choices, decisions and practices thus stand at the crossroads of multiple constraints (Lahire, 2016, p. 56) and are grounded in the social agent's dispositions. In the right context, certain categories of disposition can act as valuable resources for achieving desired social outcomes, such as obtaining a sought-after credential or accessing a prestigious occupation.

In general terms, it is in the encounter between social agents' dispositions and the social properties of the contexts in which they are placed that one can grasp some major determinations of individuals' practices (Lahire, 2012, p. 21). This idea, which has often been seen as a form of social determinism, is understandably unpopular. One reason for this principle to encounter such marked resistance in the social world is the fact that social agents generally believe in their own free will, in their freedom of choice, and in their capacity to determine their own destiny. Social agents rarely appreciate the discourses of those who reveal the way they are determined. Yet, as Martin Hollis (1971, p. 162) summarises it, "except for vacuous desires like that of 'happiness', society teaches people what they want".

Numerous social theorists have adopted this philosophy of social science. For instance Émile Durkheim (1982 [1895], p. 53) explains: "we are the victims of an illusion which leads us to believe we have ourselves produced what has been imposed upon us externally". In the same vein, Pierre Bourdieu (2015 [2010], p. 20) contends: "we are both determined and we have a small chance of ending up free; we are born into the unthought and we have a very small chance of becoming subjects", arguing that reflexivity about these determinisms is a major instrument of freedom. These two versions of the same philosophy of action both follow the Spinozist stance on that matter: "men are mistaken when they believe themselves to be free; for this opinion

solely consists in them being conscious of their actions and ignorant of the causes by which they are determined” (Spinoza, 2005, p. 171, my translation)¹³.

In order to grasp the complexity of practices, one ought to bear in mind that “the dispositions of agents display varying degrees of internal integration” (Wacquant, 2014, pp. 5-6). In Elizabeth Silva’s (2016, p. 178) words, people’s pool of dispositions can be “fragmented”, and the relevance of given dispositions for specific contexts of actions varies. Bourdieu (2000 [1997], p. 64) also acknowledges the complexity of the pool of dispositions each individual is endowed with, recognising that dispositions can both (1) be in contradiction with one another ‘within’ one pool of dispositions, and (2) have the potential to lead to varied—and even antagonistic—practices, depending on the context in which these dispositions are ‘activated’.

Despite this internal complexity, there is a wide-ranging category of dispositions that is particularly important in studying the school-mediated (re)production of social inequality: it is the family enterprise of intergenerational reproduction of social attainment. Even though the opportunity structure is complex and individuals’ perception of social success varied, there often is an underlying expectation that parents should absolutely prevent major patterns of social downgrading between them and their offspring. The widespread validity of this claim has been noted by Robert Frank (1985, p. 102): “an element of almost overriding importance in the structure of human motivation will be a taste for seeing to it that one’s children are launched in life as successfully as possible”. Brighthouse and Swift (2014, p. 124) also argue that “the desire that one’s children prosper is universal”, at least in most contemporary Western societies. Based on an ethnographic study including 86 parents in the UK and the US, Fiona Devine (2004, p. 187) confirms that “those in positions of privilege and power undoubtedly seek to preserve their position from generation to generation”.

One way of conceptualising this family disposition is through the concept of ‘conatus’. Providing a useable sociological definition of this Spinozist concept represents, as with other philosophical concepts dealing with anthropological realities, a formidable challenge. Yet, the concept of conatus is probably the most appropriate terminological shorthand for the sociologist to grasp the specific categories of dispositions based on which people engage in certain forms of social action. This is

¹³ The quotation taken directly from the English translation of Spinoza’s *Ethics* reads as follows: “men are deceived in thinking themselves free, a belief that consists only in this, that they are conscious of their actions and ignorant of the causes by which they are determined” (Spinoza, 2002, p. 264).

especially true for *reproduction strategies*. And since the analysis of reproduction strategies is fundamental for understanding the structured distribution of life chances and, more importantly, the (re)production of this structured distribution over time, resorting to the concept of ‘conatus’ is a valuable analytical strategy.

As a very first approximation, a conatus can be characterised as a selective combination of drive, effort, strivings, endeavours, desire, volition, and impetus. From a sociological point of view, families in modern societies would be endowed with a conatus of social reproduction, described by Bourdieu as (1998 [1994], p. 19) “a tendency to perpetuate their social being, with all its powers and privileges”. More precisely, I would argue that families tend to be endowed with a conatus towards the intergenerational reproduction *or betterment* of their social position. Lordon (2008, p. 34, my translation) reminds us that the conatus can tend towards “expansion or conservation” depending on the conditions at hand. In line with this refined definition, Bourdieu (1988a, p. 176) conceptualises such a conatus as a combination of “dispositions and interests associated with a particular class of social position which inclines agents to strive to reproduce at a constant or increasing rate the properties constituting their social identity, without even needing to do this deliberately or consciously”.

From the point of view of the distribution of opportunities, the concept of conatus is a reminder for the sociologist to pay attention to the *strategies* that guide social agents’ practices, including their *educational strategies*. At a very general level, it could be said that, in contemporary Western societies, families tend to be endowed with a conatus towards the intergenerational reproduction *or betterment* of their life chances. For various social classes, the fear of social downgrading often supplants the striving for social upgrading, especially in times of economic doldrums and increasing inequality. On the other hand, in times of economic prosperity, and especially for the middle classes, strategies of intergenerational maintenance of social positioning are often replaced by strategies of intergenerational upward mobility. For the upper classes, too, the conatus towards intergenerational reproduction can take the form of a forceful defence of privileges. In any case, no matter if the reproduction conatus includes mainly upward mobility strategies or fears of social downgrading, the *family* constitutes “the main ‘subject’ of the reproduction strategies” (Bourdieu, 1998 [1994], p. 69).

Although this preliminary definition is imperfect, it allows us to progress towards a more contextualised designation. It is because it can lead to various types of reproduction *strategies* that the family conatus towards the intergenerational reproduction or enhancement of life chances is relevant for this research. Bourdieu (1998 [1994], p. 19, original emphasis) further explains that “families are *corporate bodies* animated by a kind of *conatus* [...] which is at the basis of *reproduction strategies*: fertility strategies, matrimonial strategies, successional strategies, economic strategies, and last but not least, educational strategies”. In her study of “middle-class reproduction strategies” in the US and the UK, Devine (2004, pp. 11; 174) found that “middle-class parents seek to mobilise their economic, cultural, and social resources to secure their children’s occupational and educational success”.

In current Western societies, educational strategies are amongst the most essential reproduction strategies in a family conatus towards the intergenerational reproduction or betterment of life chances. Since schooling “underpins a competition for unequal life-chances”, it is understandable that “parents feel a duty [...] to secure the educational interests of their children by the most effective available means” (Jonathan, 1990, p. 125). In a study of the school-mediated (re)production of social inequality, one is thus led to consider the possibility that educational choices and preferences can be *strategies* towards the acquisition (or preservation of the exclusivity of) educational opportunities, even without being consciously designed as purposefully strategic moves.

Precisely because I focus on the (re)production of social inequality via education, it has proved necessary to pay attention to students’ *inherited* properties and resources, as strategies of inheritance constitute an important category of reproduction strategies. Indeed, when resources provided by some families can help in achieving desired ends in the school system, these resources can contribute to perpetuating the family’s life chances over generations. These resources can exist in the forms of goods and objective resources—money would be the most obvious example—but also in the form of embodied properties—such as cultural dispositions, tastes, preferences, or linguistic competencies, for example. *Inherited* (i.e. transmissible) properties can be of various kinds, but some of them grant their bearer additional capacities and possibilities (in the appropriate contexts): it is these transmissible resources that I define as species of ‘capital’. In that regard, “the family remains one of the sites for the accumulation,

conservation and reproduction of different kinds of capital” (Bourdieu, 1998 [1994], p. 108).

3. On inheritable capital

So far, I have clarified the value of the relational and dispositional pieces of social theory for my research project. On one hand, the relational theory makes us adopt a *comparative* stance on the distribution of opportunities, given that the number of positions at the top of the ladder is restricted and can thus lead to a positional competition. On the other hand, the dispositional sociology of the conatus reminds us to pay attention to reproduction strategies and, consequently, to *inherited* goods, properties and dispositions, to the extent that these can affect children’s educational chances. We shall now return to the issue of the distribution of educational opportunities based on students’ social origin.

In the sociology of education, the conventional term for the acquired properties (through inheritance or not) which contribute to improving life chances is ‘capital’. In line with the definition of capital as instruments for improving one’s opportunities, Bourdieu (1996 [1989], p. 265) contends that “the different forms of capital are specific forms of power”. The species of capital can function as forms of power because they are unequally distributed across social agents, and the power of any species of capital resides in the relative (as opposed to absolute) amount of it one possesses. In that sense, the species of capital are a relational form of social power and they can be taken as major determinants of the social distribution of opportunities.

According to Bourdieu (1998 [1994], p. 6), the two most powerful species of capital for the procurement of life chances in Western societies are undoubtedly economic capital and cultural capital. Economic capital is determining for acquiring opportunities because of its recognition as currency (with the corresponding purchasing power) in an extremely wide and increasing range of social fields. Cultural capital is crucial for life chances since it largely determines the educational and occupational chances of most social agents, which in turn shape their broader life chances. Academic credentials can be seen as the official form of cultural capital, the acquisition of which depends on non-official forms of cultural capital, such as cultural dispositions and knowledge.

Simply put, cultural capital is central mainly based on the social power of the school system, and economic capital is crucial based on the quasi-universal social power of money. Economic capital could be defined as liquid (or mobilisable) economic resources and largely exists in the form of money, since the universalisation of money has made the latter a “form of general purchasing power” (Polanyi, 1971, p. 203). Cultural capital could be defined as “cultural skills and competences that can yield ‘profits’” (Lareau & Weininger, 2003, p. 598). As much as for economic capital, cultural capital can be inherited and “translated into different forms of value as people move through different institutions” (Lareau, 2015, p. 4). Yet because “the kinds of capital, like trumps in a game of cards, are powers which define the chances of profit in a given field” (Bourdieu, 1991, p. 230), the most effective species of capital vary from field to field and also change over time in a given field.

In the context of the school system, both economic capital and cultural capital could potentially contribute to determining the social distribution of educational opportunities and outcomes. Social capital, defined as the network of friends, contacts, and acquaintances that a person can mobilise to unlock or improve her (or someone else’s) opportunities, has also been used regularly in the sociology of education. However, only empirical investigations can establish the inheritable properties that function as capital in the educational system, as well as the relative power of each species of capital. Different ways of structuring the education system can facilitate or prevent “the mobilisation of different resources by parents on behalf of their children” (Devine, 2004, p. 260). Educational structures can give more or less power to different species of capital or types of student properties. Given the importance accorded to economic capital and cultural capital in previous studies in the sociology of education, I made the decision to focus on the educationally-relevant economic capital (for instance, living in a house close to a prestigious government school or having a high income to pay for expensive tuition fees) and cultural capital (for instance, leisure activities that align with curriculum content; reading habits beneficial for academic activities; musical or mathematical competencies; or even linguistic skills recognised and valued in school settings) in this study.

While these species of capital are theoretically separate, it is often difficult to single out their functioning in practice. There is a circular relationship linking the power of economic capital and the role of cultural capital in the determination of life chances

(Devine, 2004, p. 260). Because of the complexity inherent in social reality, it is extremely problematic to measure the effect of one species of capital ‘free of the influence’ of any other species. Very concretely, because the distribution of money is not independent from the distribution of academic titles, economic capital cannot be considered as *independent* from cultural capital. Various species of capital are thus conceptually distinct but intertwined in practice. From an epistemological point of view, however, the empirical difficulty of measuring these constructs separately should not prevent us from distinguishing them conceptually—precisely because they advance our understanding of social realities.

I lack the space for detailing the concrete mechanisms of transmission of economic and cultural capital from parents to their children. Several ethnographic studies have revealed the concrete manifestations of this intergenerational transmission. Annette Lareau (2003, p. 3, original emphasis), for instance, compared the child-rearing practices of twelve middle-class and working-class American families, highlighting the “*concerted cultivation*” of children’s skills in middle-class environments. Fiona Devine (2004, p. 11) skilfully explored “how middle-class parents mobilise their resources to help their children through the education system and into good jobs” in the UK and the US. At the conclusion of her field work, she found it “obvious that those whose parents occupied privileged positions utilised their available resources on their children’s behalf” (Devine, 2004, p. 17). Devine (2004, p. 174) summarises her results by stating that “middle-class parents seek to mobilise their economic, cultural, and social resources to secure their children’s occupational and educational success”. In other words, parents’ capital endowments contribute to making new opportunities available for their children. Children from different social backgrounds thus inherit different amounts of several species capital.

Although I have focused on inherited properties as part of my discussion of family strategies of reproduction, the inheritance of dispositions and competencies does not exhaust the explanatory logics by which students from different social origins have unequal chances of being successful in the academic race. Even though analysing intergenerational inheritance is essential for making sense of the shaping of educational inequalities along social lines (especially since the process of intergenerational cultural transmission begins before children enter the school system), the specific contribution made by the school system to the stabilisation or reinforcement of these educational

inequalities must not be ignored. The specific cultural content valued in the education system (i.e. the curriculum), the forms of communication (written and oral), the types of linguistic practice rewarded in the school system, and the forms of pedagogical relations instituted in schools all tend to contribute to reinforcing the pre-existing inequalities between students from different social origins¹⁴. In parallel, the conatus towards the intergenerational reproduction or betterment of life chances manifests itself in *educational strategies* as much as in more direct *inheritance strategies*, and the educational strategies deployed by families from different social groups are unequally able to provide children with the resources necessary for being successful in the academic competition.

II. Producing sociological knowledge

1. The epistemological foundations of sociological research

The reflections I have proposed on elements of social theory have not arisen spontaneously from abstract thinking. They follow the methodical construction of the research object I have endeavoured to model in the first two chapters. As I have asserted earlier, it is the construction of this object that shall take precedence over empirical considerations.

Bernard Lahire offers a coherent and comprehensive system for thinking about the major structures shaping knowledge production in the social sciences. For him, the four key foundations of a sociological project are: (1) the ‘knowledge interest’ pursued, (2) the ‘level of reality’ under scrutiny, (3) the ‘type of social fact’ under consideration, and (4) the ‘observation scale’ (Lahire, 2012, p. 46). The ‘knowledge interest’ refers to the *perspective* (or point of view) from which the researcher looks at social reality (for example, focusing on opportunities and their unequal distribution is one form of knowledge interest). The ‘level of social reality’ corresponds to the scale of the phenomenon one wants to construct knowledge of (from micro-sociological phenomena to macro-sociological and macro-historical ones). The ‘type of social fact’ (or object) selected refers to the category of social phenomenon under consideration (individual

¹⁴ I provide a more detailed analysis of these issues in chapter seven.

practices, social trajectories, interactions, literary productions, social classes, educational experiences, curriculum structures, and so on). Finally, the ‘scope of observation’ refers to the size and breadth of the empirical study, which can vary in space, time, and number of participants (ranging from a study of a small number of brief inter-individual interactions, through to a study of social groups within a given society, all the way to a large quantitative study comparing societies).

For the present project, this framework could be described as follows. The *knowledge interest* lies in the (re)production of life chances inequality. The *level of social reality* I have decided to focus on is a macro-sociological level, looking at the society-wide process of school-mediated intergenerational (re)production of social inequality. The *type of object* under scrutiny is thus the structure of educational opportunities, and the *scope of observation* is set to a single particular educational site (theoretically conceived) in the Australian school system: the IB Diploma Programme.

These four pillars constitute the epistemological infrastructure of my research project. Bernard Lahire (2012, p. 225) also reminds us that social scientists would often gain from distinguishing more clearly the scope of observation (or measurement) of social reality they adopt from the level of social reality which they wish to gain knowledge of, arguing that studies using micro-sociological empirical material can contribute to the understanding of macro-sociological phenomena. And indeed, it should be clarified here that I wish to contribute to a broad understanding of the structure of educational opportunities by studying a specific case of educational differentiation. I contend that a study of the DP in Australia can contribute to a broader understanding of the implications of a new form of educational differentiation—the emergence of a regime of curricular alternatives—into neoliberally-shaped education systems.

It is also important to remain transparent about the knowledge possibilities of the selected approach. Every act of knowledge engages a partial view of social reality based on the object, the scope, and the level of analysis, and every point of view also has its blind spots (Lahire, 2012, p. 296). Thus, one consequence Bernard Lahire (2012, p. 302, original emphasis, my translation) highlights is the need for the researcher to recognise the limitations placed on the validity of her claims, what he terms their “*field of pertinence*”. It goes without saying that, starting from a knowledge interest grounded in life chances inequality, one is more likely to pay attention to the processes of social

differentiation based on the unequal distribution of opportunities than to concentrate on the daily-life processes of meaning-making of DP teachers and students. The type of object I have chosen implies that I intend to discuss neither the educational value of the DP curriculum as such, nor the teaching and learning practices occurring in DP classrooms. These objects are no doubt interesting, but do not belong to the present research. Additionally, this study does not address the normative question of the legitimacy and adequacy of specific alternative curricula in hierarchized school systems. It focuses on one regime of curricular alternatives in Australian secondary education, in order to provide original insights into the social distribution of educational opportunities under regimes of curricular alternatives.

Altogether, it is useful to bear in mind that, depending on the scale of the project, some elements of social reality tend to “appear or disappear” (Lahire, 2012, p. 294, my translation). Yet, it is not because scientific knowledge production grants only partial access to social reality that the full scope of social reality does not exist *objectively*. In other words, epistemological perspectivism does not automatically imply ontological scepticism. As Max Weber (1949, p. 81, original emphasis) explained, “all knowledge of cultural reality is always knowledge from *particular points of view*”. Yet it is not because he recognised the perspectivism inherent in the social sciences that he conflated this epistemological principle with an inescapable subjectivism. For him, the subjectivity of the social sciences resides only in the selection of the cultural significance of events, and it does not imply the impossibility of producing inter-subjectively valid forms of knowledge. Indeed, Weber (1949, pp. 83-84) argued that even though ‘evaluative ideas’ can only be subjective, “it obviously does not follow from this that research in the cultural sciences can only have results which are ‘subjective’ in the sense that they are valid for one person and not for others”.

2. Knowledge ideals and research practicalities

In sociological research, the types of data collected, the scale of the study, and the methods of analysis are all a function of a triple determination: (1) the research problematic (and its epistemological infrastructure), (2) the scientific ambitions of the project, and (3) the practical conditions of realisation of the study. First, I wish to assess the DP position in the school-mediated system of (re)production of life chances

inequality in Australia. Second, after screening the relevant fields of knowledge, it appears that a study of an alternative curriculum in a neoliberal school system would be a valuable contribution to the understanding of the role of a new form of educational differentiation in the (re)structuring of educational opportunities. Third, after pondering the chances of success of a large-scope design—especially the chances of recruiting participants on a topic often perceived as sensitive for schools, students, and their families—and bearing in mind the material, temporal, and human resource constraints of a three-year doctoral project, I decided to opt for a theoretically challenging and empirically realistic design.

The Australian Curriculum, Assessment and Reporting Authority (ACARA, 2014a, p. 1) recognises that, across the country, both the social origin of students and the social profile of their school influence their educational achievement. If students bring different sets of properties to the school they attend and are unequally prepared—based on their dispositions—to handle the demands of the curriculum, it is also true that not all schools are equal in the way they help students meeting these demands. As a result, the unequal distribution of educational opportunities necessarily has student-level *and* school-level components, and the practicalities facing the collection of data have to be considered at both levels. In Australia, McConney and Perry (2010, pp. 440-441) have established the importance of both students' socioeconomic background and schools' socioeconomic profile in making sense of students' academic results in mathematics and science, no matter the social origin of the student considered. In other words, the distribution of educational outcomes seems to depend on a student's socioeconomic status, but also on her school's degree of socioeconomic privilege. Accordingly, a comprehensive research design would enable the collection of student as well as school data.

Thanks to the public availability of school level data for all DP schools, I have been able to do just that. However, before explicating in detail the profile of the data and methods of analysis used in this project, one last design limitation deserves to be mentioned. Principally for practical reasons, but also because this kind of design has already been used in the case of the DP, I have not collected data about non-DP students in DP schools for this project. Conducting research on non-DP students in DP schools could certainly offer meaningful insights into the implications, for those who do not study alternative curricula, of the implementation of a regime of curricular

alternatives in schools. Nevertheless, for the purpose of understanding the overall positioning of the DP in the educational opportunity structure in Australia, collecting data on DP schools and DP students can be considered as a reasonable place to start. Retrospectively, it is evident that the public availability of rich data on Australian schools has significantly contributed to the breadth of the study. Similarly, the current state of knowledge on the DP in Australia, with its strengths and weaknesses, has contributed to shaping the research design.

Finally, a third level of analysis has received little attention thus far. Whereas the educational outcomes of students and their social origin have been studied and put in relation with one another, the contribution of the curriculum—and now curricula—to the unequal distribution of educational opportunities has been little researched. This lack of research on the role of curricula in the reproduction of social inequality is all the more incommensurable since different curricula are also unequally distributed forms of educational opportunities, because their quality for opening up new opportunities and their social accessibility can differ. In other words, the structure of curricula constitutes one central component of the structures of any school system, and the design of curricula can thus contribute to enabling or counteracting the unequal distribution of educational opportunities based on students' social origin. Accordingly, I will focus on the quality of the DP opportunity in chapters four and five; I will then deal with the social topography of the DP opportunity in chapter six; and I will examine the curriculum determinants of the comparative position of the DP in the structure of educational opportunities in chapter seven.

III. Constructing tailored tools: the empirical manufacture

1. Data sources and survey instrument

There is an undeniable affinity between the types of empirical materials collected in a research project and the sorts of analysis that can be performed on these. Considering simultaneously the research problematic—wishing to conduct a macro-sociological

investigation of the contribution of the foremost alternative senior secondary curriculum to the reproduction of social inequality in Australia—and the scope of the data I have been able to gather, quantitative methods and statistical procedures of analysis proved to be an adequate set of research instruments. Yet, even though the core of my analysis regarding the DP opportunity and its social distribution rests on statistical analyses, I have also used qualitative research methods for examining the possible causes of the quality of the DP opportunity and the social background of its schools and students, especially via the examination of the DP curriculum in chapter seven.

Whenever the social sciences produce statistics, the question of the “realism of aggregates of things or people” (Desrosières, 1998 [1993], pp. 67-102) is acutely posed. How real is the quality of the ‘DP opportunity’ considered at the aggregate level (i.e. beyond the opportunity it represents for single individuals)? How real is the social profile of the DP when the DP is taken as an Australia-wide entity?

Inspired by the work of Adolphe Quetelet (1835) in statistics, Durkheim’s *Suicide* (2005 [1897]) is often considered as one of the founding works of quantitative sociology, an oeuvre that has established the legitimacy and adequacy of statistical analyses in social research. Based on Durkheim’s masterful use of large statistical surveys regarding the causes of death, events that were previously thought to be the most personal of actions (such as committing suicide) are now considered as *social facts*, i.e. facts endowed with a reality that goes beyond the reality of each case taken individually.

In resorting to the use of statistics for accessing the reality of the DP opportunity and its social availability, I indirectly assert that the aggregate levels of DP analysis (a school, a school sector, a state, or the federal level) constitute a reality *sui generis*, to use Durkheim’s formula. In other words, an aggregate level of reality is considered as distinct from the sum of its individual manifestations for students, parents, or teachers. Therefore, the very research problematic and methods of analysis I have selected engage a particular view of the realism of collective entities. On the other hand, there are various possible attitudes towards the realism of statistics, including for those who produce these statistics. My conception of the realism of statistics rests on “the explicit admission that the definition and coding of the measured variables are ‘constructed,’ conventional, and arrived at through negotiation” (Desrosières, 2001, p. 340).

I recognise that a transfer from one level of reality to another occurs when one converts a collection of individual cases to an aggregate measure. This is what Desrosières (1998 [1993], p. 70) calls “the magical transmutation of statistical work”. The aggregate level constitutes another “register of reality” than the individual or singular levels (Desrosières, 1998 [1993], p. 70). Acknowledging this epistemological transfer leads the researcher to recognise that there are evident tensions in the epistemological power of large surveys and the statistical rhetoric behind them (Desrosières, 1998 [1993], pp. 95-96). As Desrosières (2001, p. 347) reminds us, the construction of aggregate data comes at a cognitive price, for “coding always involves sacrificing something with a view to the subsequent use of a standardized variable”. As much as other instruments of knowledge, statistics are thus performative utterances, for “statistical work not only reflects reality but, in a certain sense, establishes it” (Desrosières, 2001, p. 352).

In order to build aggregate-level results about the DP opportunity and its social availability, I have used five types of data, including three principal sources of data and two auxiliary sources. The three chief sources are (1) data taken from the *MySchool* website about all Australian DP schools, (2) data arising from the responses provided by a sample of DP students across Australia to a questionnaire survey that was distributed to them, and (3) data relating to the DP curriculum and IB policies more broadly. The two auxiliary sources of data are (1) data collected from all Australian DP schools’ websites, information brochures, and personal enquiries with school teachers and officers, and (2) broad databases about the Australian education system produced by official or independent research bodies. For the latter category, three sources have been used primarily: (1) the Australian Curriculum, Assessment and Reporting Authority (ACARA) statistics, (2) the publications of the Australian Bureau of Statistics (ABS), and (3) the Programme for International Student Assessment (PISA) data produced by the Organisation for Economic Co-operation and Development (OECD).

Launched by ACARA—the federal regulating authority on curriculum and assessment matters in Australia—in 2010, the *MySchool* website provides information on any Australian school, searchable by name, location, and sector. It occupies a place of choice in the sources of data used in this project for three reasons. First, it makes it possible to overcome the most important limitation in the literature on the DP in Australia, i.e. the absence of system-level analyses of DP schools (rather than DP

students exclusively). Second, it offers a wealth of data on numerous features and properties of schools, including several indicators highly relevant to a study of the quality of the DP opportunity and the social determinants of access to that opportunity. Third, it is publicly available online, it requires no additional procedures for utilising and analysing the data it contains, and it has been constructed in a standardised way across all schools. On 5 March 2015, I harvested the list of schools offering the DP from the IB website and proceeded to collect all *MySchool* data for these schools.

MySchool has been used several times for research purposes (Bonnor & Shepherd, 2016a; Kenway, 2013; Perry & Southwell, 2014). Although the availability of this website for the general population can be criticised, it is a highly valuable tool for researchers. In particular, the potential of the website for understanding educational inequality across Australia has been perceptively noted by Raewyn Connell (2015, p. 195): *MySchool*, albeit not developed for that purpose, contributes to revealing the “scale of inequalities” across Australian schools. With its Index of Cultural and Socio-Educational Advantage (ICSEA) developed for measuring the *collective advantage* of schools, and with the allocation of all Australian students to *Socio-Educational Advantage* (SEA) quartiles (which function as four educationally-contextualised social classes, based on several educationally-relevant species of capital that determine educational success), *MySchool* has much to offer researchers interested in understanding educational inequalities at the school level.

While the public availability of data on Australian schools on the *MySchool* website represents a unique opportunity for researchers interested in systemic analyses of education, using existing datasets, constructed by other institutions or researchers for different purposes, necessarily implies that the limitations built into the indicators and variables used in these datasets are imported into the research. Accordingly, the researcher must be aware of the logic used for constructing such variables, as well as the analytical possibilities and impossibilities they entail. This commentary is applicable to the ICSEA and SEA quartile variables.

In its *ICSEA 2013: Technical Report* (2014c), ACARA details the principles used for constructing the SEA quartile and ICSEA variables. Since Australian schools’ ICSEA scores and the allocation of students to SEA quartiles are estimated based on an SEA scale, I focus here on the construction of the SEA scale in particular. The SEA scale is conceptualised as a latent variable, and the responses provided to six parental

questions (three per parent about (1) school education, (2) non-school education, and (3) occupation) are used as indicators for this variable (ACARA, 2014c, pp. 4-5). While the three-step model used for SEA estimation has its own limitations, the main issues with the SEA scale used for estimating the ICSEA and SEA quartile values displayed on *MySchool* reside in the construction of the parental questions and the responses they can receive.

The SEA scale suffers from the same limitations as most variables about parental background used in large-scale statistical surveys in educational research. First, the questions relating to the educational background and occupational situation of Australian students' parents are discrete variables. Accordingly, they impose a predefined set of responses on the respondent, who is bound to choose the best available answer rather than to provide the most adequate answer. Second, the options between which the respondent is expected to choose are limited for the different educational and occupational variables. Accordingly, the SEA scale represents a limited description of the levels of educational and occupational advantage of Australian students.

If it is unsurprising that the SEA scale cannot distinguish between an individual who holds a Bachelor of Medical Science and another individual who holds a Bachelor of Creative Arts, it must be noted that the SEA scale cannot even account for the differences of educational advantage between postgraduate and undergraduate degree holders. The questionnaire I have developed for this research, on the other hand, clearly distinguishes between the different levels of university qualification. On the other hand, the limitations built into the occupational variables are at least as significant as the shortfalls of the educational variables. The main instrument used for assessing the occupational advantage of Australian students' parents relies on a list of four occupational groups: (1) "senior management in large business organisation, government administration and defence, and qualified professionals"; (2) "other business managers, arts/media/sportspersons and associate professionals"; (3) "tradespeople, clerks and skilled office, sales and service staff"; and (4) "machine operators, hospitality staff, assistants, labourers and related workers" (ACARA, 2012a, p. 45). Here, too, not only does the conceptualisation of occupational advantage in terms of occupational groups necessarily exclude the variations of advantage (in terms of working conditions, including remuneration) existing within given occupations; the

amalgamation of very different occupations into four large occupational groups truncates the complexity of occupational conditions.

This brief description of the limitations built into the SEA scale exemplifies the difficulties associated with using existing datasets for different research projects. The data displayed on *MySchool* are clearly imperfect, and they exhibit the traditional shortfalls associated with the construction of variables on social origins in large-scale surveys. To that extent, it would be insufficient to rely on these as the only source of data for this project. Nevertheless, they remain the most reliable source of information on the concentration of socioeconomic and educational (dis)advantage in Australian schools. Accordingly, I have used them as my primary source of data for system-level analyses, while I have drawn on other data instruments for school-level analyses.

2. Designing the questionnaire

In addition to the use of *MySchool* data, I collected data from DP students using a survey by questionnaire. In designing a questionnaire, one of the first rules to follow is to question the social conditions of possibility for the participants to respond to the questions included in the questionnaire. In this survey, the population had two remarkable features: (1) all respondents had undergone a continuous process of academic socialisation, and (2) they formed a relatively homogeneous group of social agents. Accordingly, I owe some of the questions present in the questionnaire to the very scholastic attributes of its respondents, and first and foremost their capacity to have an opinion on various education-related and broader social questions. Given that having access to a *personal opinion* is a disposition unequally distributed between social groups (Bourdieu, 2000 [1997], p. 68; Champagne, 1990, p. 14), DP students' scholastic dispositions were important for postulating that they would be able to respond to the questionnaire. As social agents occupying a university-oriented position in a senior secondary academic program, I could hypothesise that they would have the capacity to meaningfully answer theoretical and abstract questions (such as their possible occupational aspirations, for instance).

As a sub-sample of senior secondary students in Australian schools, the DP student population is reasonably homogeneous. In order to enhance the homogeneity of the sample, I also decided to focus exclusively on Year 12 DP students (excluding Year

11), thus making sure that all respondents were in a comparable position in their education career. However, while DP students in Australian schools clearly share properties beyond their appurtenance to the ‘DP cohort’, it must also be noted that the sample surveyed presented a significant variability on multiple other factors (localisation of their school, gender, age, socioeconomic background, language and immigrant status, academic achievement, and so on).

I designed the questionnaire to satisfy, as effectively as possible, a set of two contradictory criteria: (1) keeping it succinct, in order to maximise the number of responses (acknowledging that students were not rewarded in any form for their participation), and (2) obtaining the most comprehensive information on the DP opportunity and its social topography. I also including questions going beyond what is presented in this report, in order to make the most of the data collection process and incorporate this thesis into a broader research project on regimes of curricular alternatives and educational inequality. For example, multiple questions on the subjective perceptions of the extent of social selectivity associated with the DP in Australia, or normative questions on the legitimacy and fairness of these inequalities, make sense only if one bears in mind that the present project, focusing on the *objective* dimension of inequality, leaves much of the question of the *subjective* dimension unsettled.

The theoretical problematic at the core of my thesis determined the research framework, all the way down to the phrasing of the sentences in the questionnaire. Bearing in mind that inequality has been defined in *relational* terms, I made extensive use of *comparative adjectives* in the questionnaire. An illustrative example can be found in the following question, to which the students were invited to express their level of agreement: “Overall, DP students are *better students than* non-DP students”. On the other hand, the elements of social theory I have outlined in this chapter also contributed to framing some of the questions. For instance, the disposition-based theory of practice was not alien to the decision of using the term ‘reason’ over the term ‘choice’ in asking what led the student to enrol in the DP (asking why they had ‘chosen’ to do so would have forced on them the idea that they were the ones who made the decision, while it is clearly possible that this enrolment would have been partly imposed

upon them by other factors)¹⁵. Finally, acknowledging these students' academic dispositions, I opted for a teacher-led administration of the questionnaire in order to use the possibilities afforded by the institutional relationship existing between these students and their teachers. Indeed, students are all the more likely to take the task seriously when it is presented in its most academic form (i.e. as a document handed out by the holder of academic authority, that is, the teacher)¹⁶. A copy of the paper version of the questionnaire has been included as an appendix for reference.

3. From principles and concepts to variables

The next step was to find the best ways to use these multiple sources of data to address the research problematic. Following the three conditions for a new type of educational differentiation to contribute to an unequal distribution of educational opportunities outlined in chapter two, I needed variables capable of measuring (1) the quality of the DP opportunity (through the quality of the DP experience and DP students' academic results, for instance), and (2) the social background of students enrolled in the DP. For each of these two conditions, I combined school- and student-level variables for improving the explanatory power of the results. The quality of the educational opportunity was measured in two ways. First, I analysed the *outcomes* associated with studying the DP. Second, I evaluated the experience and *resources* associated with studying the DP. These two measures of the quality of the DP opportunity are reported in chapters four and five, respectively. The findings on the social topography of the DP in Australia are presented in chapter six.

a) The quality of the DP opportunity

For the first exploration of the DP opportunity (DP outcomes), the questionnaire provides several relevant variables, at the forefront of which stand the student's expected DP score and her further educational and occupational aspirations. At the

¹⁵ The exact question is "What are the main reason(s) (up to three) for having enrolled in the Diploma Programme (DP)?"

¹⁶ Given that both DP coordinators and DP students had an interest in DP students' academic success, the teachers who administered the survey (i.e. DP coordinators) were spontaneously careful not to impose the survey upon their students, in order not to distract them from their studies. The principle of voluntary participation was thus important for those effectively in charge of data collection.

same time, two indicators from the school-level data are also pertinent: (1) the school results in the National Assessment Program – Literacy and Numeracy (NAPLAN) tests, and (2) the school results to from Year 12 Australian Tertiary Admission Rank (ATAR) scoring.

For the second exploration of the DP opportunity (DP resources), the reasons given by DP students for choosing the DP highlight the comparative quality they attribute to the course. More directly, students were also invited to respond to questions about the comparative advantage associated with the DP. Concomitantly, several school-level indicators can contribute to appraising the DP curriculum in a relational way (i.e. compared to the state curriculum), including comparisons of the average student-per-teacher and income-per-student values in DP schools and non-DP schools.

Several variables are available to the researcher for assessing the quality of the DP opportunity. For the quality of the DP outcomes, ACARA developed a standardised measure of literacy and numeracy skills that can provide precious information on the educational performance of students in DP schools. The ‘National Assessment Program – Literacy and Numeracy’ (NAPLAN) tests are taken by all Year 3, 5, 7, and Year 9 students across Australia. These tests assess students’ performance on a set of competencies covering five domains: reading skills, writing skills, spelling skills, grammar skills, and numeracy skills. Students’ NAPLAN results are also used to attribute a NAPLAN score for each skill to every Australian school, representing the average score of students in that school. Indirectly, and remembering that past educational performance is the best predictor of future educational performance¹⁷, NAPLAN scores can thus be used as proxy indicators of the quality of educational opportunities in schools¹⁸.

A number of variables about the comparative educational experience of DP and non-DP students were also included in the research design. At the student level, an indirect indicator of comparative treatment was placed in the questionnaire, as DP students were asked to provide a comparative assessment of the quality of the education

¹⁷ For each level of schooling, “the academic level of achievement at the start of the year is the main factor responsible for the academic level at the end” (Duru-Bellat, 2014, p. 36).

¹⁸ It is true that one cannot ignore the cultural arbitrariness and the narrowness of the ‘skills and competencies’ assessed by NAPLAN (Mills, 2013, p. 4). Nevertheless, it is also true that their cultural arbitrariness does not prevent NAPLAN scores from aligning remarkably with the skills and competencies expected from students in senior secondary examinations. In short, although NAPLAN scores are arbitrary, (1) Year 12 examinations are arbitrary as well, and (2) it is a similar form of arbitrariness which grounds the NAPLAN tests and these Year 12 examinations.

given in the DP and outside of it. It is here assumed that their past educational experiences outside of the DP, as well as their personal relations with students not enrolled in the DP, can make their judgment reasonably reliable. At the school level, I primarily used the ‘income per student’ variable as an indicator of the school’s economic resources, and the ‘student per teacher’ variable as an indicator of the school’s human resources.

b) The social topography of the DP opportunity

The examination of the social backgrounds associated with the DP opportunity also combines school- and student-level results. The student-level data offer several indicators for grasping DP students’ inherited cultural and economic capital, such as the educational credentials and occupational positions of their parents. The questionnaire also allowed me to collect data on their past educational achievement (and thus their specifically scholastic capital). At the school level, the social properties and dispositions of DP students can be indirectly measured through indicators of schools’ social profile (school sector, tuition fees, index of socioeconomic advantage, proportions of advantaged and disadvantaged students, proportion of Indigenous students, and geographical location).

It is important to note that, while taken separately, each indicator would give only a very partial and contestable answer to the question I wish to address in this project, it is the combination of various types of measurements, about schools offering the DP as much as students enrolled in it, that can enhance the degree of confidence in the reliability of the results. This kind of multi-dimensional analysis also improves the comprehensiveness of the inquiry. Although the transitions from concepts to variables is reasonably direct for the indicators of the quality of the DP opportunity, the measurement of students’ ‘inherited assets’, or their economic and cultural background more specifically, is more challenging. With regard to the social selectivity of the DP, it is thus also necessary to clarify the transition from the ‘inherited’ background properties of the student, such as economic capital and cultural capital, to the variables used for measuring them. The operationalisation does not follow the same line for school-level and student-level data.

i) School-level variables

There are several possibilities for measuring the social accessibility of a given educational site (such as the DP) at the school level. In Australia, measures of economic and cultural selectivity have been merged into a composite indicator named the Index of Community Socio-Educational Advantage (ICSEA) (ACARA, 2013a, p. 1). Specifically designed for education, this construct is a measure of educational advantage *at the school level*. ICSEA draws on the socioeconomic and cultural background of students to attribute each school an ICSEA score. ICSEA is composed of (1) the socio-educational advantage (SEA) of the school's student population, (2) the proportion of Aboriginal and Torres Strait Islander students, and (3) the remoteness of the school (ACARA, 2014c, p. 3). As such, the socioeconomic profile of its students is only part of the measure of a school's ICSEA, along with the criteria of remoteness and share of Indigenous population. By convention, the median of the ICSEA scale is 1000 and its standard deviation is 100, while ICSEA values range from approximately 500 for the most disadvantaged schools to 1300 for the most advantaged ones (ACARA, 2015a, p. 1). Since ICSEA is not directly equivalent to a measure of students' socioeconomic background (ACARA, 2012b, p. 7), ACARA has also developed a more direct instrument for measuring the socioeconomic profile of the student population in each school.

Based on a questionnaire that all parents are required to complete when enrolling their child in a school, ACARA has developed an indicator of the socioeconomic background of each student. The organisation has divided the entire population of Australian students into four socioeconomic quartiles (from the least advantaged to the most advantaged): the bottom quartile (I designate this quartile as Q4), the lower-middle quartile (Q3), the upper-middle quartile (Q2), and the top quartile (Q1). Adopting the terminology used by the OECD, I have labelled 'advantaged students' those who belong to the top socioeconomic quartile (Q1) and 'disadvantaged students' those who belong to the bottom socioeconomic quartile (Q4) (OECD, 2013b, p. 37). Thereafter, ACARA scrutinised the student population of each school and made their proportion of students from each socioeconomic quartile for the previous academic year available on *MySchool*. Therefore, each school has a Q4, a Q3, a Q2, and a Q1 value attributed to it, based on the proportion of their student population

from each of the socioeconomic quartiles. This is a very useful indicator for finding out the social origin of students in DP schools.

Arguably, there is a key limitation to the usefulness of this indicator for my assessment of the social accessibility of the DP opportunity. Beyond the fact that the DP opportunity is only located at the senior secondary level (where a socioeconomic selection has already taken place) while the SEA values are based on the entire student population, there also is a risk of ecological fallacy in using such an indicator (Bryman, 2012, p. 323). In the context of this study, an ecological fallacy would be made if aggregate data (about schools) were used to infer properties about DP students without any valid justification. Measures of socioeconomic profiles at the school level do not discriminate between DP and non-DP students. Therefore, care is needed when using school-level measures of socioeconomic quartiles to characterise the social background of DP students, as they describe no more than the broader 'pool' of students from which the DP population can be drawn. However, the findings presented at the end of chapter two also suggest that there is no reason to assume that DP students come from more disenfranchised social backgrounds than non-DP students in DP schools. DP students may even come from more privileged social origins than non-DP students in the same schools.

ii) Student-level variables

A standard way of assessing students' social origin is to focus on their inherited economic and cultural capital. Given that a typical measure of economic capital is money, one can indirectly assess a student's inherited economic capital through her parents' occupations. It must be acknowledged that this approach leaves aside all the economic resources held by the parents as *assets* (houses, cars, saving accounts, financial products, life insurances, superannuation funds, companies, stocks and shares, and so on). In an ideal research world, the researcher interested in measuring economic capital in the most impeccable manner would use such data in order to acquire both income data and wealth data. Unfortunately, these types of data are very difficult to access, hardly ever comprehensive, and generally complicated to quantify. For all of these reasons, I have chosen the job of DP students' parents as an indirect measure of

their economic capital. By doing so, I deliberately focus on the ‘income’ dimension of parents’ economic capital.

The *Australia Jobs 2015* document (Department of Employment, 2015) was a key resource for converting a job description into its typical economic profits, by placing that occupation in one of the five brackets of median before tax weekly earnings. Given that this document only reveals the *median* earnings per occupation, this indicator can be considered as insightful but incomplete¹⁹. It is thus the complementary use of DP schools’ annual tuition fees that enhances the reliability of the analysis of the economic determinants of access to the DP opportunity in Australia.

For cultural capital, the problem is even more complex. Educationally-relevant cultural capital can refer to a wide range of dispositions. It not only includes the habit of using the arbitrary linguistic forms dominant in the educational system; the rules and codes of the scholastic disposition of practices without direct practical consequences; the non-educational cultural practices that are relevant to educational outcomes; and substantive knowledge in the curriculum subjects. It also refers to the expectations parents place on their offspring’s schooling, the importance of educational achievement for their reproduction strategies, their involvement in their child’s schooling, and the extent to which they are willing to allocate resources (economic, cultural, or temporal) to help their children in achieving the expected educational outcomes. The scope of relevant dimensions is potentially vast. As such, the number of elements constitutive of a comprehensive concept of educationally-relevant cultural capital makes it hardly amenable to empirical testing.

Realistically, I have opted for a proxy of this network of properties and dispositions in the form of the level of educational attainment of DP students’ parents (the variable). I fully acknowledge that such an indicator of educationally-relevant cultural capital (the concept) is reductive and partial, especially because of the important degree of cultural-capital diversity present for different degrees taken at a given level of education²⁰. Nevertheless, I have considered it as the best compromise to indirectly gain a sense of DP students’ inherited cultural capital in a short questionnaire.

¹⁹ For economic capital as much as for cultural capital, it is assumed that a DP student’s inherited capital reasonably corresponds to her parents’ economic and cultural capital endowment, based on the claims made earlier in this chapter about the quasi-universal existence of the conatus towards the intergenerational reproduction or betterment of life chances.

²⁰ On the difference between years of education (or level of educational attainment) and degrees (or credentials), see Bourdieu’s (2015, pp. 45-46) clear explanation.

In pragmatic terms, it is useful to remember that “academic qualifications are to cultural capital what money is to economic capital” (Bourdieu, 1977 [1972], p. 187).

Once again, the limitations inherent in selected indicators taken individually can be partly compensated by their combination. Indeed, the credentialisation of labour markets has led to a more systematic connection between (institutional) cultural capital and economic capital. Based on the increasing importance of credentials from the school system for accessing the occupations offering the highest income, cultural capital has become more indispensable for the acquisition of economic capital. As a result, any measure of occupational situation also measures, indirectly and statistically, the institutional form of cultural capital. While measures of occupational status could initially be considered as simple proxies of economic capital, they can also be considered as secondary measures of educationally-relevant cultural capital. But occupational outcomes reveal even more than cultural capital and economic capital.

c) Occupations and the distribution of prestige

Although life chances are irreducible to occupational outcomes, the statistical correlation between occupational status and numerous key components of life chances makes this indicator pivotal for the study of life chances inequality. This statement holds true for a social agent’s chances of enjoying recognition from her peers, an attribute sometimes defined as ‘symbolic capital’. Indeed, the Australian occupational sphere is vertically structured in unequal levels of esteem and status; job titles are thus a basic measure of occupational prestige, the latter being an important component of one’s symbolic capital endowment. It is in order to make sense of occupational status in Australia that the Australian Socioeconomic Index 2006 (AUSEI06) was constructed. This scale allows researchers to attribute a ‘prestige’ score to occupational descriptions gathered in their study and thus permits a study of the chances of recognition associated with differential occupational outcomes. Based on the classification of occupations developed by the Australian Bureau of Statistics (2013a), AUSEI06 makes the translation of data coded according to the Australian and New Zealand Standard Classification of Occupations (ANZSCO) into more “sociologically meaningful” scores of occupational *status* (or prestige) possible (McMillan, Jones, & Beavis, 2009, p. 1).

AUSEI06 ranges from 0 to 100, with labourers at the bottom of the scale of symbolic capital and medical practitioners at the top. One limitation of the scale is that it is now a decade old; on the other hand, one advantage of the scale is its validity for research in education, as it has been successfully tested for concurrent validity in educational research based on two large surveys (McMillan, Jones, et al., 2009, p. 2; 7). AUSEI06 converts 4-digit ANZSCO codes into status scores, and the framework underpinning AUSEI06 is similar to the one developed by Ganzeboom and his colleagues for the International Socio-Economic Index (ISEI) (Ganzeboom, De Graaf, & Treiman, 1992)²¹. Acknowledging that coding occupations at the 1-digit level is far too imprecise, and recognising that coding at the 2- and 3-digit levels remains vague, I have, whenever possible, coded the respondents' occupational aspirations and their description of their parents' jobs at the 4-digit level at least, a level of precision as good as the AUESI06 instrument permits.

4. Sampling

For the researcher thinking about sampling cases from a given population, the very first question to ask is not 'how' or 'what' to sample; but 'why' sampling. This is the first step of what has been termed a sampling strategy (L. Cohen, Manion, & Morrison, 2007, p. 117). In the case of DP schools, with a population of 60 and data available online for all of them, it has proved unnecessary to sample a smaller number of cases. A major asset of school-level data on DP schools used in this project is thus the fact that these data cover *the entire population* of Australian DP schools. In the case of DP students, the population was 1,892 candidates for the November 2015 DP examination session (Association of Australasian International Baccalaureate Schools, 2015a). Given the conditions of realisation of this doctoral project, sampling DP students was appropriate. However I had virtually no systematic information on the population as a whole, a fact that complicated the sampling choices I had to make. Conveniently, I had gathered large amounts of background information on DP schools, where all these students were enrolled. Therefore, I opted for a *purposive sampling* strategy (L. Cohen et al., 2007, pp. 114-115) in order to create a non-probabilistic sample with cases

²¹ It must be noted that a new socioeconomic index has been developed by Ganzeboom (2010) more recently. An updated version of the AUSEI has not yet been released.

possessing particular attributes (or properties). The objective was dual: (1) obtaining a variety of DP school profiles that would cover the range of existing DP school profiles, and (2) avoiding an over-representation of certain types of schools that would bias the results of the analysis. Having selected a purposive sample, I then returned to the theoretical problematic, i.e. the two components of the DP's contribution to the unequal distribution of educational opportunities.

In constructing the sample of DP schools (as an indirect step for sampling DP students), I decided to focus on representing the different social origins of students in DP schools as faithfully as possible, not in traditional terms of a 'representative sample', but in terms of reaching a sample where the various amounts of economic and cultural capital of students enrolled in Australian DP schools had a chance to be represented. This decision partly followed the theoretical importance of inherited properties—and, amongst these, economic capital and cultural capital—in studies of intergenerational reproduction of social inequality in education.

Acknowledging the timeframe available for data collection, I delineated a set of criteria for schools to be included in the sample. The first criterion of inclusion was that the school had to offer the DP for the November 2015 examination session. The second criterion of inclusion was that schools had to offer the DP alongside the state curriculum. This decision was made based on the theoretical construction of the DP as a case of alternative curriculum. Including schools offering exclusively the DP would have reduced the complexity of regimes of curricular alternatives to an issue of school choice. I would not have been able to collect DP students' opinions on the comparative quality of the DP experience within their schools. Finally, the third criterion was to exclude schools for which an ethics clearance had not been granted by the relevant educational jurisdictions²².

In order to represent the diversity of economic and cultural profiles in the population of DP schools, I segmented the entire DP school population (60 schools) into three slices. The first bloc was composed of the 10 schools with the highest proportion of students from Q4; I labelled them 'disadvantaged schools'. The second bloc was composed of the 10 schools with the highest proportion of students from Q1; I labelled them 'advantaged schools'. For these two blocs, I contacted every single school

²² The Australian Capital Territory Department of Education and Training was the only one to refuse granting ethics approval to this research project.

that met the three sampling criteria. I then placed all remaining 40 schools into a bloc of ‘middle-range schools’ and contacted all the ones that met the criteria, until I was unable to obtain any more participating schools. From a grand total of 60 schools, 10 were excluded for not offering the DP alongside the state curriculum, three were excluded for lack of ethics clearance, and two additional schools were excluded for not presenting their students to the November examination session. Out of these 45 eligible schools (comprising the schools in the ‘advantaged’, ‘middle-range’, and ‘disadvantaged’ groups), I contacted 39—or 87 percent of the total. And amongst these 39 schools, a total of 10 eventually accepted to be involved. The school participation rate was thus 26 percent for the study.

The final sample of schools contains two schools from the ‘disadvantaged’ segment, two schools from the ‘advantaged’ segment, and six schools from the ‘middle-range’ segment. The repartition of the sample along the socioeconomic spectrum of Australian DP schools is a great satisfaction, not the least because it appears to strike a satisfying balance between socioeconomic representativeness and diversity. More precisely, even within the set of six ‘middle-range’ schools, two schools belong to the 20 schools with the highest proportion of Q1 and four schools belong to the 20 schools with the highest proportion of students from Q4. Put differently, the sample includes two schools from the upper slice of ‘Q1’ (‘top 10’ Q1 schools) and two schools from the second-upper slice of ‘Q1’ (‘top 11 to 20’ Q1 schools); two schools from the upper slice of ‘Q4’ (‘top 10’ Q4 schools) and two schools from the second-upper slice of ‘Q4’ (‘top 11 to 20’ Q4 schools); and two schools from the ‘middle-range’ category of schools. The final sample arguably is a robust asset of this project, as it meets the twin requirements of breadth and fidelity to the population. Interestingly, the sample contains two government schools and eight non-government schools, or 20 percent versus 80 percent, while the respective proportions for the entire population of DP schools in Australia are almost identical (18 and 82 percent).

For each selected school, an information sheet and a consent form were distributed by the DP coordinator to the entire Year 12 DP student cohort. Those willing to participate were then given the questionnaire, either online or in paper format (a decision made by the DP coordinator for all the students in the program). After finalising the collection of data, it became clear that the response rate was higher for the paper questionnaire than for the online questionnaire, and that the respondents to the

paper version were more likely to complete the questionnaire up to the last page. However, the schools adopting the online questionnaire had their respondents less likely to skip questions when completing it.

The number of student responses totalled 174, before screening and cleaning the data from duplicate, incomplete, and non-serious cases. From these 174 cases, 10 cases were excluded for responding to 10 percent or less of the questionnaire (these cases did not even include the year of birth or sex of the respondent—the first two questions of the survey). From the 164 cases remaining, eight cases were excluded for being duplicates (according to the identification number provided). From the 156 cases remaining, six cases were excluded as ‘incomplete’ for providing no information on the school attended by the respondent, the economic and cultural profile of the family, and the student’s opinions about educational and social inequalities. From the 150 cases remaining, one case was excluded for providing non-serious responses. At that point, I was able to input the school attended where a response was missing (five cases), based on the IP address used by the students who completed the online version of the questionnaire (comparing it to the other students who had used the same IP address). From the 149 cases remaining, I then removed two other duplicate cases identified while checking the data, bringing the total down to 147 cases. All remaining cases at least indicated (1) the students’ school, and (2) the occupational group of one of the parents (except for one case where the occupational group of both parents was missing but the description of their job was given, so that their occupations could be inferred).

The usable DP student sample is thus composed of 147 responses (84 percent of the original sample). The sample size reaches almost eight percent (7.8) of the entire Australian population of 1,892 DP candidates for the November 2015 examination session. Bearing in mind that the degree of heterogeneity of the population contributes to determining the appropriate sample size (L. Cohen et al., 2007, p. 105); remembering the procedures put in place for selecting participating schools; and considering the arguments presented earlier regarding the degree of homogeneity of the DP student population in Australia, a sample size of eight percent seems reasonable enough to provide indications about the Australian DP student population. Nonetheless, the wide-ranging spectrum of participation rates for schools, defined as the proportion of students who responded divided by the total size of the Year 12 DP cohort in the school, also has to be acknowledged. In addition, while a rigorous sample can only be taken based on an

exhaustive census, no complete census of the Australian population of DP students exists. Therefore, the degree of approximation of the sample must be acknowledged.

The following table shows the percentage of respondents at each school, ranging from five to 100 percent²³. The number of respondents per school ranged from three to 45; however, the latter variability is no different from the variability in cohort sizes present in schools offering the DP (while one school in the sample had a Year 12 cohort of nine students, another one topped 79). This variability is thus likely to reflect the variability of the situation in Australian DP schools.

School name ²⁴	Year 12 DP cohort	Number of respondents	Percentage of respondents
Bradford Grammar School	17	8	47
Columbia International High School	79	24	30
Fulford School	17	7	41
Harrow State Secondary School	23	17	74
Madani College	32	16	50
Ridgewood Grammar School	64	3	5
Rosedale Girls' School	22	10	45
St Nicholas College	12	8	67
St Simon's Grammar School	61	45	74
Stirling Grammar School	9	9	100
Total	336	147	44

Table 1: List of DP schools that participated in the survey by questionnaire in 2015

5. Ethics, validity and reliability

Gaining access to some of the most 'elite' DP schools—both in the academic results of their students and in their social origin—proved to be a major challenge. Most teachers' and Year 12 students' schedule is such that their free time is a scarce resource.

²³ These values are similar to the response rates obtained by studies adopting a comparable research design. For instance, Joel Windle's (2015, p. 163) survey by questionnaire on the issue of school choice in Victoria led to response rates ranging from 0 to 90 percent.

²⁴ The real name of participating schools has been replaced to preserve their anonymity.

Moreover, in the cases where schools and teachers perceive that they have everything to lose and nothing to gain from participating, the project has little chance of obtaining their approval. Fortunately, several DP schools where most students came from economically and culturally advantaged families did not consider that they had everything to lose from participating in the study. Thanks to the open-mindedness of several DP coordinators, and to the benevolent consent of their school principals, I have been able to include a wide spectrum of DP schools in the sample. The sample is thus more likely to represent the reality of the DP in Australia than if all of the most advantaged schools had held negative preconceptions on the research design.

The process of gaining access to Year 12 students in their final year of competition for senior secondary academic results was certainly strenuous, so much so that I would unashamedly apply Bourdieu's (1996 [1989], p. 238) formula to the present project: "the principal merit of this study is probably that it managed to exist". The five successive layers of consent required (university ethics committee, educational jurisdictions' ethics committees across the country, school principal, DP coordinator, and parents) before actually distributing the questionnaire to students explains why obtaining a reasonable number of responses is a challenge in itself, especially when the population of schools is spread across Australia. Given the lack of incentives for schools to participate, it is not surprising that several of them categorically refused to be involved. Conversely, for DP coordinators, the cost-benefit balance associated with participating was such that it is particularly praiseworthy to have had 10 of them accepting to take part in the study. They were not rewarded for their participation, and their involvement is truly commendable.

The ethical issues that the researcher faces when undertaking a project such as the present one can be far-ranging. At the outset, having never been in contact with any of the respondents, and having only used a dozen minutes of their time, the potential of harm from the project is virtually nil, except with regard to the potential of symbolic harm induced by the representation of the participants constructed in the research report. At the same time, if research ethics ought to be based "on a realistic assessment of the overall potential for harm and benefit to the research subjects" (Chambliss & Schutt, 2016, p. 61), I contend that the broader implications of the research should also be considered as part of an ethical discussion. Starting from a philosophical understanding of ethics, we can interrogate the collective consequences of the research

in order to assess its ethical *raison d'être*. Here, a major determinant of ethical legitimacy can be found in the quality of research (its worth) as well as its significance (what the fashionable term 'impact' tries to capture). Using these two lenses, I trust that the meticulous attention I have given to the construction of the research object, and the fact that I have devoted the last chapter of the thesis to pragmatic proposals for policy reforms, make this project ethically legitimate.

In traditional conceptions of research, it is often considered that informed consent (implying the possibility of informed refusal), privacy (anonymity and confidentiality), and the researcher's competence, are pillars of ethical research in education (L. Cohen et al., 2007, pp. 52-65). In this project, I have put the necessary procedures in place for ensuring that the first two components are respected, and I have worked diligently to reach an appropriate level of competence. Prolonging the previous reflections on the concept of research ethics as integrating the social implications of the project, I contend that the perpetual work of contextualisation I have developed, as well as the attention I have paid to the consequences of the project, have contributed to making the research 'ethical'. Indeed, acknowledging that most ethics committee boards conceive of ethics as *deontology*, I have striven to meet deontological standards (epitomised by the traditional 'informed consent') but also paid attention to the *consequences* of the research. Accordingly, I have endeavoured to find a realistic balance of ethical legitimacy based on the two major branches of ethics used in social research: deontology and consequentialism (May, 2011 [1993], p. 62).

On the empirical side, the most common standards of research quality tend to rely on the twin notions of validity and reliability. In fact, adopting a broad understanding of the meaning of validity and reliability makes it possible to see these two notions in continuity with the conception of ethics presented above. The analytical complexity behind the portmanteau notions of validity and reliability is undeniable: for instance, while this chapter has undoubtedly been designed to report the processes I have put in place to maximise the degree of content validity and construct validity of the project, the following chapters are likely to enhance the internal validity and external validity of the project²⁵. On the other hand, the 'triangulation' of data I have

²⁵ Content validity addresses the fit between the instrument and the categories (or variables) it is meant to embody, while construct validity refers to the meaning the researcher gives to the construct (category, item, concept) itself. 'Internal validity' refers to the quality of the empirical proof provided to

put in place for investigating the unequal distribution of educational opportunities in the case of the DP contributes to overcoming the limitations inherent in the various indicators I have selected, especially given that the data come from multiple sources. To that extent, the process of triangulation—understood here as a combination of multiple perspectives used to address the research problematic—that prevails across the analysis of data arguably enhances the reliability of the results I present in the coming chapters.

6. Data analysis and research presentation

I have chosen to present the results for each variable individually, leading to a sequential ordering in chapters four, five, and six. Wherever applicable, I have detailed the relevant procedures used for making sense of the data (as an introduction to the analysis of each specific variable). A large part of the analysis consists of descriptive statistics. Given that I have been using numerous categorical variables, sample proportions of success (i.e. percentages) are the most common type of statistics in the presentation of results (R. Peck, Olsen, & Devore, 2012 [2008], p. 181). For continuous variables, measures of central tendency have often been supplemented with measures of dispersion in order to obtain a broader understanding of the diversity of the population. I have also used statistics to examine the relations between two variables, in order to explicate the results based on the analysis of single variables. To that extent, I have drawn on the two branches of statistics known as descriptive and inferential, in order to “make macrosocial entities hold” and “make relationships hold” (Desrosières, 1998 [1993], p. 96).

The following two chapters focus on assessing the quality of the DP opportunity. In chapter four, I analyse the outcomes associated with the DP, while I compare the resources and conditions experienced in the DP in chapter five. In chapter six, I assess the social topography of the DP opportunity in Australia. In these three chapters, I combine school- and student-level analyses and present results using different variables from various sources. Based on the results presented in these three chapters, a comprehensive picture of the contribution of the DP to the unequal distribution of educational opportunities will be available. Given that the unequal

support the explanation or argumentation, while ‘external validity’ refers to the degree of generalisability (to other cases or situations), or explanatory-power of the argument (L. Cohen et al., 2007, pp. 135-136).

distribution of educational chances is one of the three core components of the education-based reproduction of social inequality, I will then be able to discuss the contribution of the DP to the school-mediated reproduction of social inequality in Australia, as well as its causes, in the remainder of the thesis.

Chapter Four

The Quality of the DP Opportunity: DP Outcomes

In this chapter, I analyse the quality of the DP opportunity in Australia from the point of view of the outcomes associated with the DP. I use empirical results about DP schools and DP students in these schools to outline the value of the DP opportunity for future educational and occupational chances in a comparative perspective. At the school level, I particularly focus on Year 12 results and the comparative outcomes of DP and non-DP students. At the program level, I examine the NAPLAN Year 9 results of DP students, their university perspectives, and their occupational intentions. I demonstrate that DP schools tend to be academically superior to the average school in Australia to a significant extent, and suggest that DP students may outperform non-DP students in DP schools. Using questionnaire data, I show that DP students are likely to hold high-level tertiary and occupational aspirations.

I. Academic outcomes in DP schools

The collection of data on DP schools started from the IB website, where the list of all schools implementing their programs is available. As of 5 March 2015, the online register listed 63 Australian schools offering the DP. I then used *MySchool* to collect data on each of these schools. *MySchool* generally releases their data about Australian schools for a given year in March or April of the following year. In the present case, the most recent school-level data I was able to use were information released in 2015 about schools' situation in the 2014 academic year. I then returned to the IB website and excluded the two schools that had not been offering the DP in 2014, plus another school that had been closed by the government during the academic year of 2014. The final dataset thus includes 60 Australian DP schools that offered the program in 2014.

1. Year 12 student outcomes

MySchool uses school reports to construct school-level statistics on the destinations of Year 12 students after graduation. It provides information on three types of destinations: employment, vocational education (labelled as ‘Technical and Further Education’, or TAFE), and university enrolment. Students’ post-secondary destinations referred to the previous academic year (2013, in this case). Unfortunately, only a limited number of the 60 DP schools indicated the post-secondary outcomes of their students; therefore, it is indispensable to be very cautious with the interpretation of the following results. A total of 23 schools (38 percent of the population) reported the distribution of their Year 12 cohort amongst TAFE, university, and employment outcomes.

For these 23 Australian DP schools in 2013, the average proportion of students completing Year 12 who had gone on to university by 2014 was 66 percent; the share of students who had enrolled in TAFE was 11 percent, and the percentage of students who were employed amounted to 13. In comparison, for students completing Year 12 in 2013 in New South Wales (NSW), 52 percent had gone to university, 24 percent to TAFE, and 18 percent into employment after finishing Year 12 (New South Wales Department of Education, 2015). It thus seems that students from schools offering the DP went more frequently to university than students from schools not offering the DP. However, the variability of post-secondary outcomes between DP schools was large: the proportion of students completing Year 12 and going to university ranged from 26 percent to 94 percent across DP schools; the share of students going to TAFE ranged from 2 percent to 37 percent, and the percentage of students going on employment ranged from no student to 41 percent. Given the limited reliability of the average values for the population of DP schools, the most noteworthy feature of DP schools’ post-secondary outcomes may be the large diversity of destinations, depending on the DP school considered.

Acknowledging the paucity of information on the results and outcomes of Year 12 students from *MySchool*, I decided to collect information directly on each DP school’s website. Data were available for 72 percent of schools (43 out of 60), in comparison to 38 percent (23 out of 60) for *MySchool* data. For the vast majority of

cases, the data referred to the 2014 Year 12 cohort²⁶. However, the difficulty came from the variety of formats used for presenting the data. Three different types of measures of school outcomes were used: the mean ATAR score of Year 12 students, their median ATAR score, and the proportion of the cohort ranking over a certain threshold (ATAR above 90, for instance). Given the impossibility of standardising these various formats, I have decided to provide a multifaceted account of DP schools' results.

An ATAR corresponds to a student's ranking based on her aggregated Year 12 examination scores. The ATAR system does *not* rank a student's performance compared to her Year 12 cohort; it ranks her performance compared to the entire population of students who commenced Year 7 at the same time as she did. For instance, when a student receives an ATAR above 90, it means that she ranks in the top 10 percent of students who started Year 7 at the same time as she did. ATAR values are comprised between 0 and 99.95, and they are used by universities to select students into their courses. The most selective degrees tend to have higher ATAR entry requirements than less selective degrees: at the University of Adelaide, for example, the minimum ATAR for being eligible to apply for the bachelor of dental surgery was 90 (University of Adelaide, 2016a), while it was 66.75 for being eligible to apply for the bachelor of social sciences (University of Adelaide, 2016b)²⁷. Importantly, a recent study conducted by the Australian Department of Education found ATARs to be the best predictor of the completion of a bachelor's degree amongst a comprehensive list of variables. For instance, while 72 percent of students who had enrolled in Australian universities in 2005 had graduated by 2012, 94 percent of students with an ATAR of 95 or above had completed their studies (Commonwealth of Australia, 2014, p. 4).

The four DP schools providing information on the average ATAR score of their Year 12 eligible cohort of 2014 showed a significant academic superiority compared to the standard population of schools in Australia. The mean ATAR score for their Year 12 ATAR-eligible students ranged from 71.6 to 81.6. In comparison, the average ATAR stood around 70.0 (Universities Admissions Centre, 2015a, p. 3). Therefore, the lowest achieving DP school for which data were available obtained a mean 2014 ATAR superior to the nation-wide average ATAR. Nevertheless, the very small number of

²⁶ If data for 2014 were missing but data for 2013 were available, I used the latter. I repeated the same procedure and used 2012 data when 2013 and 2014 information were unavailable.

²⁷ It must be remembered that a high ATAR rank is a necessary but not sufficient condition for being eligible to apply for the most prestigious and selective degrees.

cases available for measures of mean ATAR should lead us to adopt a sceptical posture. It seems plausible that only the schools performing above the common lot would be willing to display their results on their website.

More DP schools displayed their median ATAR ranking than their mean ATAR ranking on their website. For the eight schools for which data were available, the median ATAR ranged from 67.4 to 93.3. Acknowledging that the median ATAR in 2014 was 68.95 (Universities Admissions Centre, 2015b, p. 51), it seems that DP schools tended to perform significantly better at Year 12 academic examinations than the typical Australian school leading to Year 12. As a matter of fact, six out of these eight schools had a median ATAR above 83. Yet, once again, the small number of cases and the possible bias towards the presentation of ATAR school profiles based on their position in the hierarchy of schools call for a cautious interpretation of these results.

The most common measure of school ATAR outcomes present on DP schools' websites was the proportion of their eligible Year 12 cohort achieving above or equal to a certain ATAR threshold. While some schools detailed the proportion of their student population obtaining an ATAR of 95 or above—or sometimes even 99 or above, for the most elite institutions—most schools opted for the proportion of their eligible cohort obtaining an ATAR of 90 or above. Queensland is the only state that does not use the ATAR system, but Queensland schools often mentioned the proportion of their eligible students obtaining an Overall Position (OP, or the Queensland equivalent of ATAR) between 1 and 5. Acknowledging that an OP of 5 corresponds to an ATAR above 90 (Universities Admissions Centre, 2015c), I used this as an indicator of the school proportion of eligible students obtaining an ATAR rank above or equal to 90 (the top 10 percent of the corresponding Year 7 cohort).

Sixty percent of DP schools (36 out of 60) provided information on the proportion of their eligible students who had obtained an ATAR of 90 or above, making this indicator far more reliable than the ones I have used so far. The proportion of ATARs above or equal to 90 in DP schools varied greatly, from a low 10 percent to a high 71 percent. Despite this wide range of school academic profiles, on average, more than 40 percent of eligible students in a DP school obtained an ATAR of 90 or above in 2014. In other words, DP schools tended to have a very large band of high performers in their Year 12 cohort. If these results based on 36 schools are reliable, it means that more than four out of 10 students in DP schools would have been eligible to apply for

dentistry at the University of Adelaide, provided that they had also met the other requirements for having their application considered. With 60 percent of Australian DP schools included in that analysis, the results are likely to be fairly robust. It does not necessarily imply that DP students dominate (or constitute the greater part of) this superior band, but rather indicates that DP schools tended to ‘produce’ a significant number of students with high academic scores for university competitive entrance. DP schools led a significant portion of their students to obtaining high academic scores. These scores generally unlock superior educational opportunities for the students who obtain them. To that extent, DP schools seem to be educational sites giving access to superior future opportunities.

2. School NAPLAN Year 9 scores

In line with the epistemological guidelines presented in the previous chapter, I have chosen to adopt a comparative method of analysis as often as possible. In the previous section, I compared Year 12 students’ outcomes from DP schools to the average Australian values. In this section, I compare the population of DP schools to the broader population of Australian secondary schools, based on their students’ results to the standardised NAPLAN tests. *MySchool* provides data on the mean NAPLAN score for each school (that is, the mean score obtained by students in that school) for each category of skills²⁸. NAPLAN is administered to all Australian students in Years 3, 5, 7, and 9. I decided to focus on schools’ NAPLAN Year 9 results: although NAPLAN Year 9 tests take place before the DP years (Years 11 and 12), they are the standardised results most likely to represent the academic level of students in DP schools as they enter senior secondary education.

NAPLAN Year 9 values were missing for six of the 60 DP schools, three of which were elite selective and high-achieving academies from Queensland (QLD) and two of which were from the Australian Capital Territory (ACT). As a result, it is unlikely that the six missing schools would make the mean scores for DP schools plummet (quite the contrary). The distribution of DP schools in the different states and

²⁸ For more information on the construction of NAPLAN tests and the calculation of NAPLAN scores, the reader can refer to ACARA’s (2015b) technical report.

territories is used on multiple occasions throughout the thesis. In 2014, DP schools were spread across Australia as follows:

	NT	TAS	ACT	WA	SA	QLD	VIC	NSW	Total
Frequency	1	1	5	5	9	10	14	15	60
Percent	2	2	8	8	15	17	23	25	100

Table 2: Distribution of DP schools in the Australian states and territories in 2014

Finally, it is useful to mention the distribution of DP schools in the categories of the ‘geolocation’ typology established by ACARA. In this system, each Australian school is classified as ‘metropolitan’, ‘provincial’, ‘remote’, or ‘very remote’. In the case of DP schools, 97 percent of them were metropolitan schools (58 out of 60), and 2 DP schools were provincial (one in Victoria (VIC) and one in the Northern Territory (NT)) in 2014. If 2014 data are considered to represent the present situation, the DP is very much an urban reality in Australia.

a) Reading skills

The average DP school outperformed the average Australian school in reading performance in 2014. Indeed, the mean score for the NAPLAN Year 9 reading test reached 623 for DP schools, while the mean score for Australian schools overall was 580 (ACARA, 2014d, p. 194). This difference of more than forty points is highly significant: for a useful order of magnitude, the reader may note that the mean score for the NAPLAN Year 7 reading test was 546 in Australia in 2014 (ACARA, 2014d, p. 130). In other words, the score difference between the average DP school and the average Australian school on the Year 9 reading test was larger than the difference between the average Year 9 score of Australian students and their average Year 7 score. While the score improvement between NAPLAN Year 7 and Year 9 reading values was 34 points on average, the score premium for DP schools compared to schools Australia-wide in NAPLAN Year 9 was 43 points. Although this score difference does not

necessarily imply that the difference between the average DP school and the average Australian school is equal to more than two years of schooling, it still indicates a highly significant gap. The average DP school ‘produced’ significantly better student achievement on a standardised reading test than the average Australian school.

However, the picture would be incomplete if the study stopped here. A more nuanced analysis of the distribution of scores for DP schools can offer a finer understanding of the reading performance associated with the DP in Australia. Five DP schools performed under the national mean in reading, but only two of these performed more than 10 points below the typical Australian school. On the other hand, virtually all of the DP schools outperforming the average Australian school in Year 9 reading (47 out of 49) did so by more than 10 points. Altogether, 37 percent of DP schools²⁹ scored 60 points or more above the national mean; 63 percent scored more than 40 points above the national mean; 82 percent scored more than 20 points above the national mean; and 87 percent of DP schools scored more than 10 points above the typical Australian school in Year 9 reading. Based on 2014 data, there is no doubt that students in DP schools tend to obtain high scores on standardised reading tests such as the NAPLAN Year 9 one.

Another possibility for gaining a finer understanding of the situation is to pay attention to the geographical distribution of scores on a state by state basis. ACARA (2014d, p. 194) provided the mean score on NAPLAN tests for each state and territory. The comparison between DP schools’ scores and typical Australian schools’ scores is as follows:

	ACT	NSW	NT	QLD	SA	TAS	VIC	WA	Total
Average DP school	616	633	574	610	622	647	629	607	623
Average Australian school	597	584	522	572	573	573	586	584	580
Difference between DP and Australian school	19	49	52	38	49	74	43	23	43

Table 3: Comparison of mean NAPLAN Year 9 reading scores (2014) between the average DP school and the average Australian school

²⁹ These proportions are ‘valid percent’, that is, they consider the DP population to be the total number of schools for which data was available (54 schools).

This table indicates the extent to which the average NAPLAN reading score in the average DP school from each state and territory was superior to the average score in the average Australian school in these same states and territories. The difference was positive for each state and territory (although the number of schools is very small in some cases). In 2014, the typical DP school was superior to the typical school in its state in reading performance in every single state and territory in Australia, and the score difference ranged from 19 points in ACT up to 74 points in Tasmania (TAS)³⁰. Still, one could argue that a comparison with the ‘average’ Australian school is not valid, as virtually all DP schools were located in metropolitan areas. Accordingly, I further compared the performance of DP schools to the mean performance of metropolitan schools in each state and territory³¹, using data from ACARA’s *National Report 2014* (2014d, p. 198):

	ACT	NSW	NT	QLD	SA	TAS	VIC	WA	Total
Average DP school	616	633	574	610	622	647	629	607	623
Average metropolitan school	597	590	564	576	578	579	589	592	586
Difference between DP and Australian school	19	43	10	34	44	68	40	15	37

Table 4: Comparison of mean NAPLAN Year 9 reading scores (2014) between DP schools and Australian metropolitan schools

While DP schools’ scoring superiority is reduced (from 43 points to 37 points on average across Australia), the dominant trend remains clear: even when compared to the average metropolitan school in Australia, the average Australian school implementing the DP significantly outperformed its competitors in reading performance in all states and territories. Based on 2014 NAPLAN reading outcomes, the educational

³⁰ These two jurisdictions each have three or less DP schools. Accordingly, the comparisons between DP and non-DP schools in ACT and TAS should not be given too much credit.

³¹ The only exception is the Northern Territory, where the single DP school is classified as ‘provincial’. For that one case, I have compared the school’s score to the mean score for provincial schools in the Northern Territory. I have repeated this procedure for the five competencies assessed in NAPLAN Year 9 tests.

opportunities available in DP schools tended to be of premium quality in Australia. And the same analysis can be reproduced, *mutatis mutandis*, for the four other skills assessed in NAPLAN: spelling, grammar, writing, and numeracy.

b) Spelling skills

Australian schools offering the DP generally performed better in the NAPLAN Year 9 spelling test than the Australian school population at large in 2014. Indeed while the mean score from Australian schools was 582, the mean score for DP schools was 613. With more than a 30-point difference on average, DP schools obtained markedly superior results than the average Australian school, even though this ascendancy is not as sharp as in the case of reading skills. Only four DP schools performed under the national mean (three of which performed more than 10 points below) in 2014, while 93 percent of them performed above the national mean. Similarly, 72 percent of DP schools performed more than 20 points above the national mean in Year 9 spelling, and 39 percent of them performed more than 40 points above the national mean. The distribution of scores was thus comparable to the distribution for reading skills, albeit on average slightly closer to the typical Australian school profile.

The analysis of NAPLAN Year 9 spelling results can also be refined by focusing on the geographical distribution of schools and scores. The following table summarises the comparison between DP schools and Australian schools, based on ACARA (2014d, p. 216) figures in both cases:

	ACT	NSW	NT	QLD	SA	TAS	VIC	WA	Total
Average DP school	607	624	562	606	612	619	619	591	613
Average Australian school	589	590	509	576	575	565	584	582	582
Difference between DP and Australian school	18	34	53	30	37	54	35	9	31

Table 5: Comparison of mean NAPLAN Year 9 spelling scores (2014) between DP schools and Australian schools

For NAPLAN Year 9 spelling, the average DP school outperformed the average school in its state or territory, and the statement is valid for all Australian states and territories. The superiority of the educational outcomes in DP schools across eight distinct jurisdictions alludes to a general trend associated with the DP: the schools in which the program was implemented in Australia in 2014 seem to constitute educational sites where superior educational opportunities were commonly available. However, as with NAPLAN reading results, the cause of this large advantage could be due to the geolocation of schools within the state, acknowledging that, in Australia as elsewhere, students in rural areas generally perform below students in towns, who in turn achieve lower scores than city school students (OECD, 2013b, p. 69). As a result, I compared the mean spelling performance of DP schools to the mean performance of metropolitan schools, using ACARA data (ACARA, 2014d, p. 220):

	ACT	NSW	NT	QLD	SA	TAS	VIC	WA	Total
Average DP school	607	624	562	606	612	619	619	591	613
Average metropolitan school	589	598	560	581	581	570	590	591	590
Difference between DP and Australian school	18	26	2	25	31	49	29	0	23

Table 6: Comparison of mean NAPLAN Year 9 spelling scores (2014) for DP schools and average Australian metropolitan schools

It is noteworthy that, in Western Australia and the Northern Territory, DP schools performed approximately at the same level as the average metropolitan school; yet the average difference between DP schools and all metropolitan secondary schools across Australia remained superior to 20 points. The academic advantage of DP schools in spelling thus cannot be imputed exclusively to their ‘geolocation’: these schools performed better than the typical metropolitan school all across Australia.

c) Grammar skills

It is when it comes to grammar skills that DP schools showed the largest superiority in 2014 NAPLAN outcomes. Indeed, with an average score of 621 against 574 for Australian schools, schools implementing the DP reached a towering 47 point advantage over the typical Australian school. Slightly more DP schools (six) performed under the national mean than with the other types of skills assessed in NAPLAN, but 89 percent of DP schools still scored above the national mean. In the grammar test, the population of DP schools contained a large number of excellent performers with very high scores: 83 percent of DP schools performed more than 20 points above the national mean, and 61 percent more than 40 points above. In other words, the majority of DP schools saw their average student performing far better in grammar than the typical student in an average Australian school. DP students were thus generally drawn from a pool of students where grammar expertise—the embodiment of an acute mastery of the subtleties of the linguistic competence recognised by the school system—was the norm.

This is not an insignificant result: grammar is the central component structuring and regulating the appropriate use of language at school. The educational system tends to teach most of the ‘academic’ curriculum subjects in a ‘language form’, including science subjects (such as physics and chemistry) and mathematics. Richard Teese (2000, p. 126) adequately uses the metaphor of the “grammar of mathematics” to explain that mathematics is taught at school as a symbolic system³². Students are expected to manipulate language as an abstract system of rules and relations, and expertise in English grammar may not be irrelevant to other forms of ‘linguistic mastery’. I come back to the question of the conception of mathematics and science implemented in the DP in chapter seven. For now, it is sufficient to note that DP schools were particularly skilled at bringing their students towards very high levels of grammar performance in Year 9 in 2014.

The degree of superiority of DP schools’ students in grammar performance varied from state to state. Even if we disregard the extreme values in Tasmania and the Northern Territory for having a single DP school each, it remains that the points difference was more than 50 in New South Wales and South Australia (SA), two states hosting respectively 15 and nine schools. The full detail of the state-by-state

³² He also reminds us that, even in science subjects, linguistic skills are paramount to report and display knowledge in examinations (Teese, 2000, p. 111).

distribution is provided below, using ACARA data for state-wide values (ACARA, 2014d, p. 227).

	ACT	NSW	NT	QLD	SA	TAS	VIC	WA	Total
Average DP school	614	633	573	605	622	642	626	604	621
Average Australian school	588	577	507	567	568	564	579	575	574
Difference between DP and Australian school	26	56	66	38	54	78	47	29	47

Table 7: Comparison of mean NAPLAN Year 9 grammar scores (2014) for DP schools and average Australian schools

In order to demonstrate that this superiority of students in DP schools is not due to the geolocation of their school, I used comparable data provided by ACARA (2014d, p. 231) to compare DP schools to metropolitan schools:

	ACT	NSW	NT	QLD	SA	TAS	VIC	WA	Total
Average DP school	614	633	573	605	622	642	626	604	621
Average metropolitan school	588	583	551	573	573	569	585	584	581
Difference between DP and Australian school	26	50	22	32	49	73	41	20	40

Table 8: Comparison of mean NAPLAN Year 9 grammar scores (2014) for DP schools and average Australian metropolitan schools

After accounting for the ‘geolocation’ factor, the superiority of DP schools over Australian schools in grammar remained marginally greater than in reading, writing and numeracy, and far greater than in spelling. On average, the typical Australian DP school performed 40 points above the typical Australian metropolitan school in the standardised grammar examination. Not only is it the case that DP schools’ superiority

in grammar could not be accounted for by ‘geolocation’ parameters; the latter also did not change the fact that competence in grammar was where DP schools dominated most. With the same fact valid for NAPLAN reading, spelling and grammar tests, we can reasonably exclude the ‘geolocation’ of DP schools as the major determinant of their academic superiority. Provided that we can rely on 2014 data, DP schools are educational sites where superior educational opportunities for academic success are available, beyond the advantage provided by their geolocation. The DP opportunity thus seems to be available in schools ‘producing’ high-quality academic outcomes or, at least, in schools that did produce such outcomes in 2014.

d) Writing skills

The comparison of the average DP school’s NAPLAN writing performance to the average Australian school’s score delivers similar results to the comparisons in reading and grammar. The pattern of superiority of DP schools across NAPLAN competencies makes it sufficient to summarise the comparative NAPLAN writing performance of DP schools in words. With a 45-point difference (595 compared to 550), DP schools’ students were far better at academic writing than students in Australian secondary schools in general. To use words rather than a table, at one end of the spectrum, five DP schools performed worse than the national mean in academic writing; at the other end of the spectrum, 83 percent of DP schools scored more than 20 points above the national mean. Even further, 67 percent of DP schools scored on average more than 40 points above the standard Australian school. The geographical distribution of this superiority across the different states and territories is comparable to the distribution in NAPLAN grammar: in all states and territories, the average DP school outperformed the typical school in the state, and the average DP school in New South Wales and South Australia surpassed the respective state averages by more than 50 points. But the writing test in NAPLAN was specific in one regard for DP schools: it is the only competence in which DP schools fared on average worse than the average metropolitan school in a small number of states and territories. Using data taken from the annual NAPLAN report (ACARA, 2014d, p. 209), the following table outlines the state-by-state comparisons between DP and metropolitan schools:

	ACT	NSW	NT	QLD	SA	TAS	VIC	WA	Total
Average DP school	575	601	522	585	606	616	606	564	595
Average metropolitan school	559	557	523	551	554	544	566	571	559
Difference between DP and Australian school	16	44	-1	34	52	72	40	-7	36

Table 9: Comparison of mean NAPLAN Year 9 writing scores (2014) for DP schools and average Australian metropolitan schools

Even though this situation was present only in the Northern Territory and Western Australia, it is worth mentioning that, in terms of writing performance, the average DP school was superior to the average school in Australia, but not systematically superior to the average metropolitan school in each state and territory. Yet, at the national level, the superiority of DP schools is indubitable: in 2014, the average DP school scored 36 point above the average metropolitan school in Australia in NAPLAN Year 9 writing. At this point, it is possible to state that the average DP school was an educational site where educational opportunities for high-end academic performances *in all literacy skills assessed in NAPLAN* were disproportionately located. The DP program was thus implemented in a population of high-achieving schools in Australia, where academic performance was of high quality even before the DP years (senior secondary education).

e) Numeracy skills

Given the concordance of results for the four other NAPLAN skills, I could simply have asserted that DP schools are institutions where students tended to obtain better NAPLAN Year 9 numeracy results than students in Australian schools in general did in 2014. Nevertheless, the importance of numeracy skills for students' future educational chances is such that further elaboration is warranted. Several prestigious selective university courses require not only a high ATAR rank, but also that the student has studied a mathematics or science course—both of which require numeracy skills—in completing Year 12. For instance, in order to apply for the bachelor of medicine and

surgery degree at Monash University in 2016, the school-leaving student not only needed an ATAR of 94 or above; she also needed to have reached a benchmark score in her chemistry Year 12 examination (Monash University, 2016). Students' performance in the sciences and mathematics depend on their skills for conceptualisation and abstraction (Teese & Polesel, 2003, p. 102), and numeracy skills, as measured in NAPLAN, tend to rely on these same competencies.

Interestingly, the case of numeracy skills showed little difference to the other NAPLAN competencies, when it came to assessing the position of DP schools in the hierarchy of achievement. The latter performed on average 44 points above Australian schools (632 versus 588), with only five schools performing below the national mean. On the other hand, 61 percent of DP schools scored more than 40 points above the national mean, and 80 percent of DP schools scored more than 20 points above the national mean. Australian schools offering the DP thus had student populations ranking high in the 2014 hierarchy of achievement in numeracy skills in Year 9. The population of students who enrolled in the DP program in these schools was thus likely to be drawn from a pool where high-achieving students were over-represented. This statement holds true across all states and territories (the superiority of the average DP school over the average school in the state was lowest in Western Australia, with 22 points, and highest in Tasmania, with 70 points), and also remains valid for all states and territories when compared to metropolitan schools' scores (the superiority of DP schools ranging from 14 points in Western Australia to 67 points in Tasmania). Importantly, even when compared to the average metropolitan school in Australia, the average DP school surpassed its contender by a massive 38 points in numeracy skills.

The population of Australian schools has changed very little since 2014. As of 1 July 2016, there were 62 DP schools in Australia (International Baccalaureate, 2016f), with more than 95 percent of these schools being the ones included in the present analysis. In addition, if we consider that the overall position of schools in the hierarchy of achievement is relatively stable from one year to the next, it is reasonable to consider that the results obtained using data from 2014 are valid (broadly speaking) at the time of writing. In summary, in numeracy, as much as in all literacy skills assessed in NAPLAN, DP schools are places where students can obtain superior academic results far more often than in the average Australian school, even after accounting for state and geolocation factors.

f) DP schools as high-calibre educational sites

The following table summarises the results presented for all the competencies assessed in the NAPLAN Year 9 tests. In 2014, the typical DP school outran the standard Australian school by more than 42 points and the average metropolitan school by more than 35 points in every competence assessed by NAPLAN but spelling. Not surprisingly, the superiority of DP schools was lower when compared to metropolitan schools than when compared to Australian schools overall. Nonetheless, the consistency with which the average student in DP schools performed highly on standardised tests is remarkable. For both types of comparison (with all Australian schools and with metropolitan schools only), DP schools' superiority was similar for reading, grammar, writing, and numeracy skills: it held within four points in both cases (43-47 for the DP school-Australian school comparison and 36-40 for the DP school-metropolitan school comparison). Spelling outcomes is the only NAPLAN competence where the DP domination was comparatively less striking.

	Reading	Spelling	Grammar	Writing	Numeracy
Difference between DP and Australian school	43	31	47	45	44
Difference between DP and metropolitan school	37	23	40	36	38

Table 10 Comparison of mean NAPLAN Year 9 scores (2014) on five tests for DP schools and average Australian and metropolitan schools

In generalising to the current situation, it is fair to assert that the average student profile in DP schools tends to be the profile of a high-flyer. DP schools are undoubtedly associated with superior academic performances compared to Australian schools in general. The fact that this superiority was evident across the board on academic skills tested by NAPLAN in 2014 leaves little room for misinterpreting these results. The extent to which students in DP schools obtained consistently superior outcomes across the range of NAPLAN competencies gives support to the idea that a given form of cultural expectation crosses the various skills assessed. The present analysis is

consistent with the OECD (2014c, p. 153) results showing that, in Australia, the correlation between performances in mathematics and reading is 0.76. Such a strong correlation—using Cohen’s (1988, p. 80) typology—implies that students who perform highly in one competence tend to perform highly in the other as well. It seems unlikely that such a high correlation would be obtained for two *culturally independent tests*. The main feature that reading and mathematics—as taught in schools and assessed in NAPLAN or PISA tests—have in common, is a definition of proficiency that rests on similar cognitive and cultural demands.

While the relation between Year 9 NAPLAN scores and Year 12 academic results is arguably not direct, the fact that a student’s academic performance at the start of the year is the best predictor of the student’s academic performance at the end of the year (Duru-Bellat, 2014, p. 36) makes it reasonable to assume that Year 9 NAPLAN scores are a solid proxy indicator of DP schools’ academic success. In Australia, the DP is implemented in schools where the quality of the educational opportunities available for obtaining superior scores on standardised tests tends to be high. Put differently, the DP is implemented in institutions the attendance at which already constitutes a form of superior educational opportunity, and DP schools are generally capable of offering their students superior educational chances. Moreover, the fact that NAPLAN Year 9 tests are taken just before students’ transition to senior secondary education also implies that, irrespective of the specific quality of the DP opportunity, DP students in Australian schools are drawn from a pool of students where high-achievers are overrepresented.

It may be tempting for the reader to interpret these results as meaning that Australian DP schools have a specificity that makes them literacy and numeracy ‘factories’, where students perform consistently better across the board of literacy and numeracy skills than what could be expected from them. However, this interpretation would be hasty, as we have only looked at comparable schools in administrative and ‘geolocation’ terms. Several other comparisons need to be conducted, especially about the economic and cultural profile of the student population in DP schools, before reasonably assessing the specific contribution of DP schools in terms of educational success. And even more importantly, the results so far discussed tell us about DP schools rather than DP students. To that extent, they tell us more about the context in which the quality of the DP opportunity can be assessed, rather than the quality of the

DP opportunity itself. We now need student-level data to have more direct indications of the comparative value of the DP opportunity.

II. Outcomes and future opportunities in the DP program

1. DP students' results in comparative perspective

When constructing the questionnaire, I postulated that a fruitful introductory way of evaluating the quality of the DP in terms of Year 12 outcomes was simply to ask DP students about it. Therefore, one of the questions included in the survey invited them to express their opinion about the following statement: 'In Australia, DP students generally obtain higher Australia Tertiary Admission Rank (ATAR) scores than non-DP students'. Out of the 147 participants in the survey, 130 (or 88 percent) gave an answer to this question. Amongst the 130 DP students who responded, 45 percent agreed that DP students tend to obtain higher ATAR ranks than non-DP students, and 23 percent strongly agreed. At the other end of the spectrum, seven percent of DP students disagreed, and none strongly disagreed. It is generally rare for respondents to select the 'extreme' options in evaluative survey questions; yet, in this case, almost a quarter of respondents did so. DP students almost 10 times more likely to agree (including strongly) with the ATAR superiority of DP graduates than to disagree (including strongly) with it (68 percent against 7 percent). In the eyes of DP students, therefore, students enrolled in the program perform significantly better on the ATAR scale and thus are less likely to be excluded from selective university courses based on their ATAR. If the respondents are correct, the DP would constitute a superior educational opportunity, for it would unlock future upper-end university opportunities.

Asking DP students about the superiority of the DP opportunity is not sufficient. Arguably, such an indicator of the quality of the DP opportunity relies heavily on students' understanding of the subtle hierarchies of the educational market. For that reason; it may be seen as subjective and significantly determined by the fact that all respondents were enrolled in the DP. However, it is also likely that DP students, who

had enrolled in an *alternative curriculum*, had a fine understanding of the profitability of the different educational pathways available to them. In addition, past research also found that DP students tend to obtain better ATAR ranks than non-DP students in Australia (see chapter two). In any case, it is important to supplement students' opinions about the comparative quality of the DP opportunity with other direct measures of students' academic results in the DP.

School-level data can be useful in comparing the cohorts of DP students and non-DP students. In this case, it is necessary to focus exclusively on the schools offering both the DP and the state curriculum. Out of the 60 DP schools in the sample, 50 of them (or 83 percent) offered the DP alongside the state curriculum in 2014. For the purpose of comparing the outcomes of DP and non-DP students, I collected data from schools providing comparable information on their DP and non-DP cohorts' Year 12 results³³. Four measures of Year 12 results were gathered from schools' websites for this comparison: (1) the mean Year 12 ATAR of the DP and non-DP cohorts, (2) their respective median Year 12 ATARs, (3) the highest ATAR score amongst these two cohorts, and (4) the proportion of each cohort reaching an ATAR rank above a certain level (generally 90). While the last two measures ('program dux' and proportion of 'high achievers' per cohort) do not represent their respective cohorts as a whole, the fact that they can demonstrate that DP schools tend to have a band of high-achieving students makes them valuable indicators for assessing the relative quality of the DP opportunity.

Six schools provided the mean ATAR for both of their DP and non-DP cohorts, and seven schools provided the median ATAR for these two cohorts: in both cases, 100 percent of the schools saw their DP cohorts outperform their non-DP cohorts. While the number of schools for which data were available is small, not a single case of median or mean superiority of the non-DP cohort over the DP cohort appeared. On measures representing their respective populations, therefore, DP students always tended to obtain better Year 12 results than non-DP students in DP schools (on average). In that regard, the quality of the DP opportunity was objectively superior to the quality of the regular curriculum, at least in terms of subsequent educational chances.

³³ Data from 2013 were used when all data were missing for 2014, and data from 2012 were used when the results for neither of these two years appeared.

When it comes to high achievers in DP schools, a larger number of institutions revealed the comparative outcomes of students in their curricular alternatives. Out of the 50 schools offering the DP and non-DP Year 12 programs, 58 percent (or 29) provided information on the highest achiever in the school. In 79 percent of cases (23 schools), the best-scoring DP student outclassed the best-scoring non-DP student in the school. In only six DP schools was a non-DP student the dux of the school. In Australian DP schools in 2014, DP students obtained the best ATAR result of the entire school almost four times out of five. In that context, the quality of the DP opportunity was comparatively good (1) for the average DP student and (2) for the best DP student. Of course, it may well be that the best student in the school, who happened to be enrolled in the DP four times out of five, would still have obtained the best results had she been enrolled in the state curriculum. Accordingly, the DP curriculum at least did not prevent high-achieving students from excelling academically.

The proportion of DP students versus non-DP students achieving an ATAR of 90 or above is possibly the best instrument available for assessing if DP students were part of the band of high-achieving students in DP schools (see page 108) or not. Out of 50 DP schools offering the IB program as an alternative curriculum, 30 percent (18 schools) provided data permitting the comparison of DP and non-DP cohorts for their respective proportions of high achievers. The result is, once again, limpid: in 100 percent of cases, the DP cohort had a higher proportion of students obtaining an ATAR of 90 or above than non-DP students. It thus seems reasonable to deduce that high-performing students in DP schools were overrepresented in the DP program compared to the state curriculum alternative. If we can extrapolate from these data, the quality of the DP opportunity for future educational chances seems significantly superior to the quality of the state curriculum in DP schools.

If one combines the two measures of central tendency (mean and median ATARs) with the measure of the ratio of high-achieving students, 23 schools (or 38 percent of all schools offering the DP as an alternative curriculum) provided comparable information for the DP and non-DP cohorts. In all of these schools *without any exception*, the DP cohort surpassed the non-DP cohort on ATAR results. These results are decisive: they indicate not only that the DP was implemented in first-rate schools in Australia in 2014 (see ‘Academic outcomes in DP schools’ earlier in this chapter), but also that in such schools, the DP was part of a hierarchical structure of

programs, where the DP cohort was academically superior to the non-DP cohort. This comparative analysis implies that the process of educational differentiation that took place in the Australian education system with the progressive introduction of an alternative curriculum (the DP) has led to the creation of a hierarchy of curricula, where the DP alternative is associated with superior academic results (on average). If the chances of getting high ATARs define part of the quality of the DP opportunity (see my definition of educational opportunities on page 33), the DP was undoubtedly of superior quality to the state curriculum alternative in 2014 in Australia (at least on that account). The results presented in this chapter support the claim that the introduction of DP in Australia has established two discontinuities in the continuum of student performance: one between DP schools and non-DP schools, and the other between DP students and non-DP students in DP schools.

2. DP students' educational aims

For students to make the most out of the superior outcomes associated with studying the DP and actually unlock superior educational opportunities, they also need to aim at high-end postsecondary opportunities. These further educational chances often correspond to enrolling in selective courses or being accepted at elite universities. In the questionnaire that was submitted to them, DP students from the 2015 cohort were asked to provide details about their future educational plans. Out of 147 respondents, 146 answered the question about their educational intentions: 97 percent (142 students) explained that they intended to go to university after completing Year 12, one percent (one student) reported not wishing to go to university, and two percent (three students) mentioned being unsure about their university aspirations.

Evidently, direct employment or enrolment in TAFE courses are generally not within the realm of aspirations for DP students in Australia. A secondary analysis of data from the Programme for International Student Assessment (PISA) can provide a point of comparison³⁴. In 2012, 60 percent of 15 year-old students in Australian schools

³⁴ The data files from PISA 2012 for Australian schools and Australian students are available on the Australian Council for Educational Research website (Australian Council for Educational Research, 2013).

aspired to study at university³⁵. DP students were thus far more likely to intend to enrol at university than the broader Australian secondary school student population. Overall, aiming for university studies seems to be a given for DP students in Australia, no matter what the profile of the school they were enrolled in was. The higher education aspirations of DP students aligned with the Year 12 academic results of the previous Australian cohort of DP students.

Attending a university, however, is not sufficient. The course studied and the university attended by students matter for their future occupational chances. I thus asked students to provide the name of the university they would like to attend, as well as the degree they wished to enrol in. I coded the responses about universities in four categories: 'Go8 universities in Australia' (that is, national elite universities), 'regular Australian universities', 'prestigious international universities' for institutions whose name is sufficient to symbolise high standing³⁶, and 'regular international universities' for less renowned institutions overseas. When several institutions were mentioned by the student, I only retained the first one in the list. Regarding the degrees, I coded the responses in sixteen different categories³⁷ that I have aggregated, based on the chances of occupational profits they provide, in the discussion of results.

Eighty-five percent of the participants (125 students) indicated the university they wished to attend after Year 12. More than half (54 percent) of these DP students wanted to enrol at a Go8 university: 24 students were interested in the University of Melbourne, 12 in the University of Adelaide and in the University of Sydney, 11 in the University of New South Wales, 4 in the University of Queensland, 3 in Monash University, and 1 in the Australian National University. Certainly, the location of the schools in the sample could explain the distribution of responses across the different universities within the group of Go8 universities (for instance, the absence of interest in

³⁵ I performed this secondary analysis using the PISA 2012 student data file for Australia, in which 14,254 students responded to the question about their university aspirations.

³⁶ The responses included in this category are 'University of California, Berkeley', 'Oxford University', 'University College London', 'University of British Columbia', 'Stanford University', 'London School of Economics', 'Massachusetts Institute of Technology', 'University of California, Los Angeles', 'Cambridge University', 'Tokyo University', and 'Princeton University'.

³⁷ The exact list is (1) medicine, (2) dentistry, (3) health sciences (including pharmacy, physiotherapy, veterinary science, biomedicine, paramedicine, nursing, radiation therapy, optometry, and health sciences), (4) law, (5) business, (6) commerce and marketing, (7) accounting and finance, (8) management, (9) engineering, (10) social sciences, (11) arts and humanities (including creative arts and fine arts), (12) information and communications technology (ICT) studies, (13) science, (14) economics, (15) architecture, and (16) education. Here, too, I used only the first degree provided, when several were indicated.

the University of Western Australia, the only Go8 university not mentioned in the responses, is not unrelated to the absence of schools from Western Australia in the sample). However, the sharp interest in Go8 institutions itself cannot be reduced to geographical factors, as multiple other universities exist in the states and territories where the schools included in the sample are located. These Year 12 DP students in Australia aimed predominantly for the best and most prestigious universities in their vicinity³⁸.

When DP students displayed an interest in studying overseas, they seemed to be interested in ‘regular’ universities (10 percent) as often as in prestigious ones (11 percent). This result could be due to the difficulty in classifying overseas institutions as prestigious or not (leading to a certain margin of error in differentiating between these two categories of international universities). It could also be explained by the location of these universities, where the student may have had family or previously lived. Overall, almost four out of five DP students (78 percent of them) wished to study in Australian universities, and in Go8 universities more than twice as often as in non-Go8. Yet, the quarter of DP students aiming for ‘regular’ Australian universities cannot be ignored. These students could be aiming for profitable courses in less elite universities, but could also be interested in non-superior courses. In order to assess these possibilities, I examined the degrees DP students wished to enrol in and refined the analysis based on the type of institution in which they intended to study.

Ninety percent of DP students from the sample gave an answer to the course they wished to study. The four categories of degrees that interested DP students the most were science degrees (19 percent of respondents), medicine degrees (14 percent), arts and humanities degrees (12 percent) and health degrees (12 percent). Taken together, these four pathways totalled 59 percent of the study intentions of DP students. While the categories used for the analysis are necessarily imperfect³⁹, it is noteworthy that a bachelor of science is the most appealing university prospect for DP students, followed by two categories of degrees leading to the health professions and one arts category. At the other end of the spectrum, accounting and finance (zero percent),

³⁸ DP students were far more likely to be interested in enrolling in a university in their state of residence (53 percent) than interstate (21 percent), while a quarter (26 percent) appeared to be interested in studying overseas.

³⁹ The students’ responses varied in degree of generality: for instance, some of them indicated wanting to study a bachelor of biomedical science, while others simply wrote down ‘law’. Therefore, the sixteen categories used to classify their responses necessarily entail a built-in degree of imprecision.

architecture (one percent), dentistry (one percent), economics (two percent), ICT studies (two percent), management (two percent) and education (two percent) proved to be unpopular courses amongst Year 12 DP students.

If these proportions of DP student aspirations are compared to the proportions of new entrants at the tertiary level, the specificity of the DP students' profile in terms of tertiary aspirations is striking. In Australia, 17 percent of new tertiary students enrol in health and welfare fields and 12 percent in science (OECD, 2014b, p. 341). In other words, while 45 percent of DP respondents aspired to a tertiary course in science, medicine, or health, only 29 percent of Australian new tertiary students enrolled in these fields. These data suggest a clear similarity between the university aspirations of DP candidates in the UK (see page 55) and in Australia: in both cases, the health professions seemed particularly appealing to DP students. At the same time, there is a major difference between the two contexts: while DP graduates enrolling in UK universities neglected science degrees, Australian DP students demonstrated a significant interest in these degrees.

Is this discrepancy a genuine difference of occupational aspirations of DP students in the two countries, or is it a simple by-product of the different organisation of the university systems in Australia compared to the UK? As will become evident after examining Australian DP students' trajectory aspirations, they genuinely had a more pronounced interest for the sciences than their UK counterparts. At the same time, they aimed for the superior pathways available in the health and science fields.

3. DP students' occupational aspirations

In order to access high-end occupational outcomes, such as prestigious or high-paying jobs in the professions, benefiting from superior educational opportunities is often insufficient. Students also need to develop dispositions leading them to aspire to these positions. Given DP graduates' disregard for science courses in British universities, one could hypothesise that the strong interest of DP students in science degrees in Australia might be due to the fact that several universities across Australia offer medicine courses exclusively (or mainly) at the postgraduate level. In such cases, students need to hold an undergraduate degree in a relevant field (such as science). Thanks to the responses given by DP students regarding their occupational aspirations, I am able to discuss this

hypothesis and provide more meaningful conclusions on the tertiary education intentions of DP students.

DP students primarily aspired to one of four categories of university courses after their Year 12 graduation: science, medicine, arts and humanities, and health. Two of these four categories are clear in terms of occupational prospects: students in medicine courses generally wish to become medical practitioners, and students aiming at health degrees other than medicine would most likely be expecting an occupation in the health sector mentioned previously (such as pharmacy, optometry or veterinary science). On the other hand, the career prospects of students willing to enrol in a degree subsumed in the 'arts and humanities' and 'science' categories can be far more varied. These multiple options have prompted me to provide a more detailed analysis of DP students' occupational plans. Even though there is no guarantee that the occupation wished for by DP students will become their job after graduating from university, these occupational aspirations remain an important disposition for students to make the most out of superior educational opportunities. Given that students' responses did not make an analysis of the economic rewards associated with their occupational aspirations possible, I used the prestige score associated with their prospective job, based on the AUSEI06 scale⁴⁰, in order to assess the position of their occupational aspirations in the hierarchy of jobs.

Out of the 147 participating DP students, 70 percent (103 students) provided an answer to their occupational projects. Their responses were coded using the Australian and New Zealand Standard Classification of Occupations (ANZSCO) (Australian Bureau of Statistics, 2013b)⁴¹. With the ANZSCO coding manual, the maximum level of coding precision is the 6-digit level (if sufficient information is available from the respondents). For DP students' occupational aspirations, 2 were coded at the 2-digit level, 24 were coded at the 3-digit level, 29 were coded at the 4-digit level, and 48 were coded at the 6-digit level. A quarter of the responses could be coded with no more precision than the 3-digit level, which is a rather imprecise measure of occupational prestige, as it applies to a range of jobs (McMillan, Beavis, et al., 2009, p. 131). On the other hand, AUSEI06 prestige scores are attributed to occupations at the 4-digit level. In other words, I was able to code three quarters of the responses with the maximum

⁴⁰ For more details on this instrument, please refer to chapter three.

⁴¹ A more detailed description of the coding process using ANZSCO is available in chapter six.

level of precision permitted by the instrument converting job codes into occupational prestige.

The range of status and prestige associated with the occupations that were sought after by DP students in Australia is wide. From the one student who wished to become a chef (corresponding to a prestige score of 27) all the way to the 27 students wanting to become doctors (general practitioners, psychiatrists, obstetricians and surgeons, all corresponding to the top prestige score of 100), the careers contemplated by DP students displayed varying degrees of estimated prestige. However, as the considerable number of DP students interested in becoming doctors attests, the broad range of aspirations is not incompatible with a dominant trend: DP students strove for highly prestigious jobs on average. The mean prestige score associated with the occupational prospects of DP students was 85, when the scale ranges from 0 to 100. And while only four students' occupational projects were given a prestige score under 50⁴², a striking 26 percent of DP students responding to this question wished to become doctors.

With more than one in each four DP student interested in the most prestigious category of medical professions, jobs with high-levels of prestige definitely appealed to DP students. This result seems to confirm the strong interest of DP students in the most prestigious health professions found in the UK study. In both contexts, there seems to be a noteworthy affinity between DP students and the professions, especially the prestigious categories of health professions. In the Australian context, too, these upper-end health professions occupy the top echelons of the income and prestige scales. A significant number of DP students in Australian schools in 2015 thus aspired to superior occupational chances. The academic results of the corresponding 2014 DP cohort suggest that the students of 2015 may have been able to access university opportunities capable of leading them towards these upper-end jobs.

4. DP students' trajectory aspirations

Another approach usable for refining the analysis of the future educational and occupational aspirations of DP students is a trajectory perspective, in which the university degree and the job a student hopes for are coupled. In order to make more

⁴² Out of these four low-prestige responses, the reliability of the coding is limited for three of them, as two received 2-digit ANSZCO codes and 1 received a 3-digit ANZSCO code.

sense of the previous results, I decided to focus on the four types of degrees most often sought after by DP students in Australia. Analysing students' wished-for educational and occupational trajectory is a good way of unravelling the occupational meaning of the 'science' and 'arts and humanities' degree preferences. Although the large share of DP Year 12 students willing to become medical doctors already gives us a hint about the potential relation between university degrees and occupations for these students, an analysis of trajectory aspirations, degree category by degree category, can render students' responses more meaningful.

Seventy-eight (59 percent) of the 132 students who provided information on the degree they wished to study chose one of the four categories aforementioned. Amongst these 78 students, 65 (or 83 percent) also indicated their desired occupation. I was thus able to attribute an occupational prestige score to this sub-population. For DP students choosing a degree in (non-medical) health sciences, medical science, arts and humanities, or science, the lowest prestige score was 59, for a student wishing to enrol in a bachelor of paramedical science to become a rescue paramedic, while the highest prestige score was 100, for multiple students choosing a bachelor of science or a bachelor of medicine to become doctors. The mean occupational prestige score for students choosing one of these four types of degrees was four points higher than the average score for DP students overall (89 compared to 85). Students willing to study these four types of degrees were thus interested in even more prestigious careers than DP students overall. At a more general level, the DP seems to have been significantly associated with prestigious university *and* occupational aspirations as recently as 2015 in Australia, as the clarification about DP students choosing health, science, medicine, or arts and humanity degrees demonstrates.

We can now pay closer attention to two of the four categories of degrees that were uncertain in terms of their potential occupational profitability: (1) arts and humanities and (2) science. This specific examination can give us a more concrete understanding of the occupational prestige associated with these students' career ambitions. Out of the 18 students interested in studying a bachelor of arts, five students had not formulated an occupational project (although responses such as "something fun" or "something humanities oriented" were given). Even though that leaves only 13 responses, the mean occupational prestige score for students wishing to enrol in a bachelor of arts was 72, almost fifteen points below the mean prestige score for DP

students' occupational prospects overall. Therefore, DP students interested in studying a bachelor of arts were likely to aspire to less prestigious jobs than the other categories of DP students. Typical career aspirations mentioned by these students were "actor", "performer", "producer", "ballet dancer", "translator", "curator" or "author". For these jobs, it is clear that the level of prestige varies widely, as some actors enjoy practically no recognition, whereas widely-acclaimed and renowned actors often enjoy a great capital of fame and prestige. It is thus uncertain if these students would be likely to reach prestigious occupational positions. In any case, it seems fair to assert that the likelihood of them attaining prestigious occupational positions is less than the chances that their fellow DP students in Australia have of reaching prestigious occupational outcomes.

The situation is quite different for students interested in a bachelor of science. Amongst the 25 students mentioning their science degree study expectations, 17 also detailed their occupational projects. The mean prestige score associated with the occupations desired by DP students interested in a bachelor of science was 89, on par with the score of the sub-group interested in the four most common categories of degrees, and slightly superior to DP students' occupational aspirations overall. For these science-oriented students, three broad occupational pathways emerged: (1) becoming a scientist, and especially a researcher (with responses such as "research in science (biology)", "forensic scientist", "zoologist", "pharmacologist", "research physicist", or "space program researcher"); (2) becoming an engineer (with answers such as "civil engineer", "mechanical engineer", or simply "engineer"); and (3) becoming a medical doctor (no specialty was mentioned here). Within that group of three trajectories, however, the scientific one dominates quantitatively: while four science-driven students wanted to become doctors and three wanted to become engineers, eight students contemplated the possibility of becoming (research) scientists.

DP students from the 2015 cohort wishing to study science at university did not aspire to the job of medical doctor as their first objective. In other words, for those interested in enrolling in a bachelor of science, Year 12 DP students displayed a marked interest in genuinely scientific careers, based on research activities in the biological and physical sciences. However, these aspirations remained marginal compared to students' aspirations towards upper-end jobs in the health professions. DP students were more than twice as likely to aspire to becoming medical doctors as to aspire to any science

job (27 versus 12), and almost four times more likely to aim at becoming medical doctors than engineers (27 versus seven). Accordingly, the trajectory approach of DP students' educational and occupational aspirations reveals a marked interest in upper-end professions, particularly in the health sector. These students also aspired to other professional jobs, including in science and engineering. Altogether, they were generally interested in jobs with high occupational prestige.

III. The DP and the unequal distribution of academic results

In this chapter, I have looked at the academic outcomes of DP schools and DP students, as well as the educational and occupational aspirations of the latter, in order to assess the quality of the DP opportunity. I found the DP program to be implemented in high-achieving schools, a feature that reveals an unequal distribution of educational chances between DP and non-DP schools (on average). At the same time, DP students' academic results in DP schools were consistently (i.e. across all schools for which data were available) superior to non-DP students results in the same schools. Here, these findings allude to an unequal distribution of educational chances between DP and non-DP students in DP schools.

It goes without saying that these conclusions do not imply that DP schools or DP students would not obtain superior academic outcomes if the DP were not offered in the school or if the students who chose the DP had enrolled in the state curriculum instead. In all likelihood, most of these schools and students would be successful anyway. Nevertheless, if 2014 data represent the current situation of the DP in Australia, studying in a DP schools and being enrolled in the DP in these schools leads students to obtaining superior academic results. To that extent, the DP opportunity is of superior quality, and the introduction of this new form of educational differentiation, based on curricular alternatives, has contributed to the unequal distribution of educational chances.

School-level data have been utilised to demonstrate that the DP alternative has been implemented in high achieving schools, and this result holds true for standardised

tests in all five types of academic competencies assessed in NAPLAN Year 9. The superiority of DP schools on the five types of NAPLAN tests was considerable when compared to typical Australian schools and remained very large when compared to typical metropolitan schools only. Additionally, I was able to gather school-level data on the ATAR scores obtained by DP schools' students. ATAR results are a particularly useful indicator for assessing students' future educational chances in Australia, since a student's ATAR is one of the best predictors of university success, above gender, age, or socioeconomic background (Commonwealth of Australia, 2014, p. 4; Li & Dockery, 2014, p. 24)⁴³.

Given the importance of past academic results for determining future educational opportunities *and* outcomes, the indicators used in this chapter are highly valuable for grasping the quality of the DP opportunity. DP schools tended to have a large layer of high-achieving students, as the proportion of students achieving an ATAR score over 90 in these schools demonstrated. The environment in which DP students spent their final years of schooling often leads to high academic performances that offer a chance of entering selective university courses and potentially attaining prestigious and economically rewarding occupations. Further, I revealed that, in all DP schools for which data were available, DP students tended to obtain superior ATAR ranks than the rest of the Year 12 cohort. In Australia, the DP was thus a program leading to superior educational outcomes, implemented in already high-achieving schools, as recently as 2014. DP students were thus, as a superior group of students within already superior schools, i.e. doubly academically elite.

Thanks to the student-level data, I was able to shed light on the university plans of Year 12 DP students as much as on their occupational aspirations. I first noted that virtually all DP students intended to study at university, unlike the average population of secondary school students in Australia. DP students were particularly interested in choosing Go8 universities for their university applications, and they strikingly wanted to enrol in degrees giving access to very high-status professions. These findings are all consistent with the results obtained in the survey of Australian DP graduates published by IGI Services (2012).

⁴³ Completion rates of a bachelor's degree positively correlate to ATAR scores, and the chances of completing steadily increase as the ATAR band score increases: they are almost 89 percent for the 90-94 band score, and practically 94 percent for the 95-100 band score (Commonwealth of Australia, 2014, p. 8).

Although the diversity of careers that interested DP students from the class of 2015 should not be overlooked, three striking facts emerged from the student-level analysis. First, in terms of further education aspirations, four broad categories of degrees particularly appealed to DP students: medical science, the health sciences, science, and the arts and humanities. Second, the occupational prestige score of DP students' desired careers was very high. Third, not only were DP students greatly interested in health-related professions in general (when one aggregates medicine and non-medicine health careers); they were also predominantly interested in one of the most prestigious occupations of the medical field: doctor. Indeed, over one in every five DP student wished to become a medical doctor (22 out of 103).

One could legitimately voice concerns regarding the reliability of the student-level data I have used, arguing that degree ambitions and career aspirations tend to be unreliable. At a general level, this is an issue that deserves to be acknowledged. However, I contend that two important features of my sample make the students' responses more reliable than responses on future aspirations usually are. First, the fact that my sample only contains Year 12 students makes their responses more trustworthy than for younger and less mature students. But even more important is the fact that I only surveyed students enrolled in the DP who, as I have demonstrated, tend to be high-achieving students in high-achieving schools. The academic profile of DP students reduces the potential risk of dissonance between their ambitions and their actual chances of fulfilling them. This is precisely confirmed by the 'Graduate Destination Survey' referenced in chapter two. The authors of the study found that almost 80 percent of DP students were able to obtain their preferential wish in terms of degree enrolment (IGI Services, 2012, p. 17).

In the first half of the 2010s, the DP was associated with superior educational outcomes in Australia, at the school level as much as at the program level. Based on data from 2014 and 2015, it seems fair to assert that the DP is more often than not a superior educational site unlocking prestigious and profitable future educational and occupational opportunities in Australia. Furthermore, this chapter's results also indicate that the dispositions of DP students lead them to aspire to these upper-end opportunities. If I were to unravel a selectivity of access to the DP based on inherited properties, I would have proved that the DP contributes to the education-based reproduction of social inequality in Australia. Before addressing the social selectivity of

access to the DP in chapter six, I need to evaluate the other dimension of the quality of the DP opportunity. This chapter focused on the *outcomes* associated with the DP; in the next chapter, I evaluate the quality of the DP opportunity based on the *conditions and resources* associated with the DP in Australia.

Chapter Five

The Quality of the DP Opportunity: The DP Experience

In this chapter, I pay attention to the quality of the DP opportunity from the point of view of the educational experience available in DP schools and for DP students. It is because the quality of this experience determines the quality of the outcomes that both components are considered as related features of the quality of the DP opportunity. At the school level, I analyse the resources available, and I particularly focus on the school income per student, as well as the ratio between number of teachers and number of students. At the program level, in order to evaluate the comparative quality of education experienced by DP students, I mainly rely on their own assessment of academic learning provided in the DP and outside of it. I examine (1) DP students' reasons for enrolling in the DP, (2) their opinions on teaching and learning in the DP, and (3) the comparative advantage they see in the DP for university studies.

I. DP schools' resources

As I have explained in the first chapter, the structures of most current school systems tend to induce the education-based reproduction of social inequality over generations. Beyond the direct measure of academic results, educational resources are another one of the principal dimensions determining the quality of an educational opportunity. And the unequal distribution of educational resources to different social groups can contribute to shaping the school system in a way that supports the reproduction of social inequality. Accordingly, it is relevant to investigate the quality of the opportunities given to students for obtaining high academic outcomes. At the school level, the human and economic resources available are an essential dimension of the quality of the DP experience.

1. DP schools' human resources

By comparing the resources available for teaching and learning in DP schools versus all Australian schools (including DP ones), it is possible to assess if DP students are enrolled in schools offering better opportunities to their students. School teachers and staff members are arguably the most fundamental constituents of schools shaping the quality of the educational experience available to students. While teachers' competence (especially their training and experience) is fundamental when evaluating the quality of the students' educational opportunities, the quantitative dimension of schools' human resources—that is, the number of teachers—matters as well.

The number of students per teacher can be seen as a generic indicator of the human resources available in schools. Of course, the human resources a school needs for helping most of its students to reach a certain level of academic competence depends on the academic and social backgrounds of these students, as well as on the size of the school and the size of each student cohort. On the other hand, if one is interested in the *relative* performance of students rather than their absolute performance, it is the comparison of the level of human resources between different schools that becomes crucial. It is precisely this comparative analysis that I have conducted for DP schools.

MySchool provides the average number of students per teacher in every Australian school by dividing the total number of students enrolled by the total number of teachers (both converted into full-time equivalent (FTE) values). All 60 schools where the DP was on offer in 2014 had a 'student per teacher' value on *MySchool*. The Australian DP school with the least 'human teaching resources' had 15.8 students per teacher in 2014, while the richest DP school in human teaching resources had 7.9 students per teacher in 2014. In other words, in the most disadvantaged DP school (in terms of teaching staff), there were exactly twice as many students for each teacher as in the most advantaged DP school. There was thus a significant inequality in the distribution of human resources between DP schools, and it is likely that such a difference in human resources—from single to double—may have had consequences on the educational opportunities offered to students in different DP schools. Some of them are likely to have benefited from a breadth of subject offerings and depth of teaching expertise that others were less likely to encounter. With a coefficient of variation of 18

percent across the population⁴⁴, however, the differences in teaching workforce between DP schools remained moderate.

The fact that large differences between DP schools exist does not mean that making general statements about DP schools is irrelevant, as the analysis of student outcomes in the previous chapter demonstrates. The typical DP school in Australia had 10.7 students enrolled for each teacher working there in 2014. What does this value signify for the quality of the educational opportunity in DP schools? In order to make this figure meaningful, I compared it to the values provided by the Australian Bureau of Statistics (2015) for all Australian schools in 2014. In Australia, the student-per-teacher ratio reached 13.9 across all schools and sectors. The average Australian school had 30 percent more students per teacher than the average DP school in 2014. Only six of the DP schools in Australia had more students per teacher than the national average. One could retort that the comparison is biased, as primary schools tend to have a higher number of students per teacher than secondary schools, whereas the DP is a secondary school program. Yet this criticism does not invalidate the comparison, as only 22 percent of DP schools were secondary schools exclusively. Indeed, almost four out of every five DP schools (78 percent) in Australia were categorised as combined (primary and secondary schools together) in 2014, making the comparison with the student-per-teacher ratio of all schools valid.

One could still reply that DP schools were predominantly present in what is called the ‘independent’—or what I label as the corporate—sector⁴⁵, where schools are better staffed. But that does not disprove the adequacy of the comparison: even if all DP schools had been in the corporate sector, comparing the human resources in DP schools and in Australian schools overall would still be a valid analysis, for it does reveal the unequal distribution of educational opportunities between DP and non-DP schools. Since schools compete against one another across the three sectors (and not only within each sector), it is relevant to compare DP schools to Australian secondary schools overall. For the sake of argument, let us assume that DP schools should be compared to

⁴⁴ The coefficient of variation for a given variable is a measure of dispersion calculated by dividing the standard deviation of the distribution by its mean. Also labelled as ‘relative standard deviation’, I have used it as a way of calculating the typical distance between the student-per-teacher ratio in one DP school and the same ratio in the DP school with the average proportion of students per teacher.

⁴⁵ The ‘independent’ label is misleading, as most of these schools receive a substantial amount of government funding. The suggestion of replacing the term ‘independent schools’ by ‘corporate schools’ (Campbell, Proctor, & Sherington, 2009, p. 10), based on the governing structures in these institutions, seems to be a fitting terminological adjustment.

schools from their own sector only (an epistemological move that erases the inequality of opportunities between sectors).

It is true that the distribution of the DP across the three school sectors in Australia leans markedly towards the non-government sector: in 2014, 11 DP schools were administered by the Australian states and territories (government schools), one DP school was a Catholic establishment, and the remaining 48 DP schools were corporate institutions (schools in all three sectors are subsidised by the Australian governments). If the human resources of DP schools are compared, sector by sector, to the workforce in Australian schools, the comparative advantage of DP schools remains evident across all sectors. The average DP government school had 11 percent less students per teacher than the average Australian government school overall (12.6 versus 14.2 students per teacher). Similarly, while the average corporate school in Australia had 12.1 students enrolled for each employed teacher in 2014, the average DP corporate school had 10.3 students enrolled per full-time teacher. In any school sector, the average DP school had at least 10 percent fewer students than the average Australian school in the same sector as of 2014.

Accordingly, DP schools tended to be rich in human resources for their teaching needs in 2014, even compared to non-DP schools from their respective sector in Australia. From a staffing point of view, DP students were thus enrolled in institutions that were likely to provide them with superior learning and academic performance opportunities. Importantly, DP schools would offer superior educational opportunities, in terms of human resources, even if they enrolled students from all socioeconomic and academic backgrounds in equal proportions. In fact, chapter four demonstrates that they disproportionately enrolled high-achieving students in 2014, and chapter six will show that students from privileged economic and cultural backgrounds were overrepresented in them as well.

A final note is needed in order to properly interpret these results: the 'student per teacher' indicator is *not* a synonym of class size. The number of students per teacher can have implications for the diversity of curriculum subjects available to students as much as it can determine the expertise available in a given subject (albeit only in an indirect manner in both cases). Even though this variable is likely to be somewhat related to class size, at the school level and on average, the variety of class sizes for different cohorts and programs leads me to consider student-per-teacher ratios and class

sizes as analytically distinct. One can hypothesise that the student-per-teacher ratio is a better indicator of the resources available for student learning than class sizes. Arguably, the student-per-teacher quota suggests *potential* learning opportunities, rather than directly measuring them. Nevertheless, given that education is a labour-intensive industry, and given that teachers' salaries are the major expenditure in school systems, it is likely that schools possessing far superior human resources use them in support of students' learning (rather than simply 'wasting' them).

2. DP schools' economic resources

MySchool also provides information on schools' economic resources. Here again, the quality of the indicator comes from the fact that ACARA divulges schools' incomes *per student*, allowing researchers to make meaningful comparisons between schools in Australia. The key measure of schools' economic resources provided by *MySchool* is the 'Net Recurrent Income Per Student' (NRIPS) (ACARA, 2013b)⁴⁶. For DP schools, the NRIPS is based on values for 2013, while the NRIPS for Australian schools overall (DP and non-DP) refers to values for 2011. As school funding may have increased during these two years, it is only if significant differences were revealed between DP and Australian schools overall that the economic resource inequality between DP and non-DP schools could be deemed reliable. NRIPS data were available for all 60 DP schools.

Even more striking than in the case of human resources is the fact that economic resources are seriously unequally distributed between DP schools. The lowest-income DP school held a NRIPS of \$10,654 in 2013, while the highest-income DP school enjoyed a towering \$36,767 net recurrent income per student in the same year. Put in perspective, it means that one DP school had approximately three and a half times more economic capital *for each student enrolled* than another DP school in Australia. With a coefficient of variation of 26 percent, economic resources can be said to have been disproportionately available to some DP schools over others in Australia. Nevertheless,

⁴⁶ Here, too, it must be noted that the NRIPS does not account for the unequal cost incurred by educating students from different social or academic backgrounds to reach a certain level of academic performance. It also does not cover all economic resources available to schools (especially capital funding).

it is useful to take some distance with the DP population and consider the average economic endowment of DP schools in comparison to other schools in Australia.

DP schools benefited from a median NRIPS of \$19,597 in 2013. For a comparable order of magnitude, the average Australian school benefited from a median NRIPS of \$11,827 in 2011 (ACARA, 2013b). The average DP school had 66 percent more funding in 2013 than the average Australian school had had in 2011. Even though the funding for schools increased between 2011 and 2013 in Australia, it is highly unlikely that this growth offset the extra \$7,770 that the median DP school received *per year and per student* compared to the median Australian school. If 2013 data are considered as representative of the present situation, DP schools in Australia receive higher incomes than most Australian schools (on average). The superiority of their economic resources for offering high quality educational opportunities to students is manifest.

Once again, it is legitimate to question the population of schools I compared DP schools to, as the latter were largely metropolitan institutions, primarily combined schools, and generally situated in the corporate sector. Based on ACARA data (ACARA, 2013b), I was able to perform a comparison between DP schools and Australian schools in each of these categories. For the 58 metropolitan DP schools, the median net income per student amounted to \$19,485 in 2013 while the income per student corresponded to \$10,876 in 2011 in all Australian metropolitan schools. When compared to metropolitan institutions, DP schools thus received an additional 79 percent of funding per student (or \$8,609) in a given year. Australian DP schools offering secondary education exclusively were the sub-category of DP schools closest to its Australian equivalent: the 13 DP secondary schools had a median NRIPS of \$13,511, against \$13,168 for Australian secondary schools overall. With only 22 percent of DP schools being ‘secondary’ institutions, however, this resemblance represents the comparative situation of a small number of DP schools only.

The difference in economic resources between Australian combined schools and DP combined schools—the most common type of DP implementation—is, on the other hand, more telling. And when it comes to combined schools, the inequality between all Australian schools and DP schools is large: the former category totalled \$14,665 per year per student in 2011, while the latter collected \$21,538 per year per student in 2013. DP combined schools received an additional 46 percent of funding compared to

Australian combined schools. And the existence of a large economic disparity between DP schools and Australian schools remains valid when the school sector is considered. Whereas Australian corporate schools in metropolitan areas had a median income per student of \$13,217 in 2011, DP corporate schools in metropolitan areas (46 cases) had a median income per student of \$21,424 in 2013. In this case, DP schools received 62 percent more funding than metropolitan corporate schools overall. In the government sector, while Australian metropolitan schools obtained a NRIPS of \$10,768, metropolitan DP schools (11 cases) reached \$13,495 (a 25-percent funding bonus). Finally, whereas the median income per student for Australian corporate combined schools was \$12,918, for the 46 DP schools with identical properties, the median income per student was \$21,541. This represents an extra 67 percent of annual income per student in corporate combined DP schools compared to Australian corporate combined schools.

The recent sector-by-sector analysis of the NRIPS in Australian schools performed by Bonnor and Shepherd (2016b, p. 42) confirms that, despite the increase in school funding since 2011, DP schools remain significantly privileged in terms of economic resources, even when compared to Australian schools from the same sector. While Australian government schools received a NRIPS of \$12,169 on average in 2013, government DP schools received \$14,891 in that same year, or 22 percent of additional funding *per student*. The funding privilege of DP schools was even more striking in the corporate sector. Whereas the average NRIPS for corporate schools was \$16,610 in 2013 across Australia, corporate DP schools—representing 80 percent of all DP schools in Australia—enjoyed a NRIPS of \$21,175 *on average*. In other words, the net recurrent income per student in DP corporate schools was more than 27 percent superior to the income per student in all Australian corporate schools, the latter already benefitting from a NRIPS 36 percent superior to the net income per student of government schools at the same period. DP schools generally were economically privileged amongst the economically privileged in 2013 in Australia.

From this analysis, it appears that DP schools were closest to non-DP schools in economic resources when they belonged to the government sector or were exclusively secondary schools. The problem is that the DP schools that meet these criteria are in minority within the DP population. DP schools that were (1) combined (offering primary and secondary education) and (2) in the corporate sector, on the other hand,

represented 77 percent of DP schools in Australia in 2014 (46 out of 60 institutions). For these schools, the economic advantage they held over Australian schools (on average) is striking. As much as with human resources, it is reasonable to assume that this superiority in economic resources may have led to superior learning opportunities for DP students. As Connell (1993, pp. 24-25) has it, it is difficult to believe that funding differences of 50 percent to 100 percent have no effect on educational processes and outcomes. With 85 percent of DP schools enjoying a net recurrent income per student above \$14,000 in 2013; with 70 percent of such schools reaching a net income per student above \$17,000; and with 47 percent of DP schools earning an income per student above \$20,000, there is little doubt that DP schools have enjoyed the privilege of greater economic resources than many of their competitors.

Overall, even after accounting for the sector, type of school, and geolocation factors, DP schools were consistently more highly funded than non-DP schools in 2013. Given that the population of DP schools has changed little since 2013, this finding implies that the educational differentiation brought about by the implementation of the DP alternative in Australia has also led to an unequal distribution of economic resources between DP and non-DP schools. This unequal distribution has no doubt contributed to the unequal distribution of opportunities for high academic performance between DP schools and non-DP schools—to the advantage of the former—revealed in the previous chapter. DP schools thus seem to combine the human and economic resources for being in a position to offer a privileged education towards the acquisition of superior future educational and occupational opportunities to their students.

II. DP students' comparative learning opportunities

It is not sufficient to study the resources available in DP schools for understanding how the DP compares to other educational opportunities. One also needs to assess the internal dynamics of educational opportunities within DP schools, by comparing DP students and non-DP students. The reasons invoked by DP students for enrolling in the DP can offer a first picture of their perception of the relative educational opportunities provided to DP students and non-DP students. Simply put, if I were to unravel evidence that a significant proportion of students were choosing the DP for its educational

‘privilege’, I would have identified an educational plus-value in the DP opportunity (at least from its customers’ point of view).

1. DP students’ reasons for enrolling in the program

In the questionnaire that was submitted to them, I asked DP students to provide up to three reasons for their enrolment in the DP⁴⁷. Their responses to this open-ended question were coded in no particular hierarchical rank (that is, ‘reason 3’ does not have less weight than ‘reason 1’), given that students were not asked to respond in any specific order of importance. Almost 94 percent of the participants in the survey (138 out of the 147 students) provided at least one reason for having enrolled in the DP. Their responses were then classified in 12 categories of motives⁴⁸. Among these categories, several of them were marginal: DP students did not often enrol in the IB curriculum based on an expectation of studying in smaller classrooms (3 percent) or because their siblings or friends had enrolled in it (3 percent); they also generally did not enrol based on parental directives (4 percent) or because of their participation in the PYP or MYP programs (4 percent).

According to the categories used for classifying students’ responses, the most common reason for their enrolment in the DP was the superiority of its scoring system, including the favourable conversion rate of DP scores into ATAR scores, and the absence of scaling of ATAR scores of DP students (29 percent of students). In other words, almost one in every three DP students had enrolled in the DP partly because of the DP privilege in terms of future educational opportunities. Interestingly, this subjectively perceived superiority resides neither in the *conditions* in which the DP was taught compared to the state curriculum, nor in its curricular content. For DP students, the superiority of the DP opportunity was embedded in the very policies regulating the program and its exchange value in the Australian tertiary education system. Therefore, the factors that have made the DP an alternative of superior quality in Australia might

⁴⁷ The exact question is ‘What are the main reason(s) (up to three) for having enrolled in the Diploma Programme (DP)?’

⁴⁸ The detailed list of categories is: (1) reasons pertaining to the ATAR scoring of the DP, (2) university preparation reasons, (3) teaching conditions reasons, (4) curriculum reasons, (5) comparative ‘superiority’ reasons, (6) educational advantage reasons, (7) educational challenge reasons, (8) parental pressure reasons, (9) peer and social influence reasons, (10) international recognition reasons, (11) experience with other IB programs reasons, and (12) IB educational philosophy reasons.

not only reside in the quality of the learning conditions and experience in DP schools. The very structures regulating the value of the DP credential on the educational (i.e. university entrance) market might have contributed to the unequal distribution of educational opportunities between DP and non-DP students.

The second most common category of responses brings us closer to a specific advantage in terms of teaching and learning. Amongst DP students, 25 percent of respondents explained their enrolment in the DP by the superiority they attributed to the DP subjects (especially Theory of Knowledge, the Extended Essay, and the second language), the curriculum content and the methods of learning associated with it, or the approaches to learning supported by the DP. Put differently, one in every four DP students not only considered the DP *curriculum* as superior to the state curriculum: they found its design to be one of the main reasons for having enrolled in the DP in the first place.

Of course, this result does not imply that the DP curriculum would be of superior quality to all students. It may simply be that the DP meets a certain category of students' educational preferences better than the state curriculum alternative. If that is the case, it becomes necessary to analyse the social categories of students the DP suits well, in order to understand if the introduction of this alternative curriculum has contributed to the reproduction of social inequality. I will address this question in chapter six.

The students who had embarked in DP studies generally found a concrete privilege in the education provided in the DP program compared to the state alternative. And despite the imperfection of the categories of classification, several other responses given by DP students complemented this fact. Six percent of DP students explained their enrolment in the DP by considering it simply better than the other options available, and 12 percent of them saw the better preparation for university as a cause of their enrolment in the DP. As recently as 2015, the DP seems to have been widely perceived by DP students as providing them with superior opportunities for winning the further educational chances they wished to be given.

The broad category of reasons dominating DP students' explications for their enrolment in the program can be defined as its 'overall superiority'. For DP students, this superiority resided in two main features: (1) the structure and content of the DP curriculum, and (2) the policy entanglements regulating the academic value of the DP

overall. So far, none of these results have alluded to a DP privilege in terms of learning. The DP clearly emerged as a source of privilege for future educational chances, but more because of its curriculum and its recognition policy than because of its superior teaching and learning experiences. Rather than referring to the quality of the teaching and learning in the DP, most students explained their alternative curricular enrolment based on qualities intrinsic to the program (that is, based on its position and properties as a curriculum in the Australian schooling system) or policies regulating its exchange value in Australia.

DP students' reasons for explaining their enrolment in the DP have two implications for the analysis of the distribution of educational opportunities. First, given that students had chosen the DP for curricular features intrinsic to the DP program, it seems essential to analyse the DP curriculum. I provide a detailed examination of the DP curriculum from a comparative perspective in chapter seven. Second, in order to evaluate the comparative quality of teaching and learning conditions inside and outside of the DP, it is necessary to go beyond DP students' reasons for enrolling in the DP.

2. The qualitative superiority of the DP experience

In the previous section, I demonstrated the quantitative superiority of human teaching resources in DP schools. In the questionnaire, I asked students about the *qualitative* superiority of DP teaching compared to non-DP teaching. To the statement 'Overall, DP teachers are better teachers than non-DP teachers', students were invited to express their level of agreement. Out of the 147 participants, 130 responded to this question. The most common opinion among respondents was in fact two different responses: 36 percent neither agreed nor disagreed with this statement, while 36 percent agreed to it. In other words, 72 percent of students were neutral or affirmative towards this assertion.

While the high proportion of students neither agreeing nor disagreeing should be taken into account, it is also relevant to compare the proportions of agreements (both strong and regular) against the proportion of disagreements (both strong and regular as well). This approach reveals that 15 percent of DP students disagreed (combined) whereas 49 percent of them agreed (combined). DP students were over three times more likely to agree than to disagree with the idea that DP teachers are better than their non-DP colleagues. This suggests a qualitative superiority of human resources available to

DP students compared to non-DP students (at least in the subjective appraisal that those who benefit from the teaching of DP educators made of them). According to the results presented in this chapter so far, there appears to have been a two-level superiority of the resources associated with the DP: high levels of human resources in DP schools, on one hand, and better teachers in the DP program than outside of it (on average) within DP schools, on the other hand. At the school and program levels, the quality of the DP opportunity compared favourably to the other alternatives available in Australia.

DP students held the strongest opinions when it came to assessing the educational demands placed on DP students. Amongst the various multiple-choice questions included in the questionnaire, the statement with which DP students agreed most was: 'Studying the DP is more demanding than studying the local high school curriculum'. Out of the 129 students who responded to this question, 90 percent of students either agreed or strongly agreed with the statement. The most common answer was an 'extreme' one, with 57 percent of DP students strongly agreeing. According to those who were studying it, the DP was more demanding than programs such as the South Australian Certificate of Education (SACE), the Victorian Certificate of Education (VCE), or the Higher School Certificate (HSC).

At first, this result may seem inconsequential. If the DP is a more difficult path to follow for students, can it really be a superior educational opportunity? If 'difficult' is understood as placing superior learning and performing demands on students, the DP is not necessarily a superior opportunity. However, if these superior learning and performing demands are associated with superior chances of scoring upper-end academic results, then the DP can be a superior educational opportunity even if it is a more demanding program of study for those who enrol in it. As I have demonstrated in the previous chapter, this assessment precisely applies to the situation of the DP in Australia.

When students were asked about the comparative pace and depth of study in the DP, similar results emerged. Whereas no DP student amongst the 130 answering this question strongly disagreed, almost one in three DP students agreed that the pace of study was more intense in the DP, on top of which more than half of all students strongly believed in the validity of that assertion. Overall, 84 percent of responding students agreed (strongly or regularly) with the higher pace of DP studies. If their

opinion is correct, it would mean that DP students covered more content in Year 11 and Year 12 than non-DP students.

This finding is paralleled in DP students' opinion regarding the depth of their learning: while approximately one in five DP students neither agreed nor disagreed with the statement that 'DP students study their subjects in greater depth than non-DP students', three quarters (75 percent) of all respondents found the DP pathway to engage students in deeper subject content than non-DP students. Out of 130 students answering, no student strongly disagreed with that statement and five percent disagreed. At the other end of the spectrum, 47 percent strongly agreed with the idea of an engagement with more profound subject content in the DP. If their views are mostly valid, this result suggests that DP students engaged with higher-level content than their non-DP peers. The learning material used in the DP could possibly be more theoretical, complex, and abstract than in the state curricula (if the DP curriculum is modelled on the same principles as the Australian senior secondary curricula).

The level of cognitive demand embedded in the content taught in a program is an essential factor for students to become high achievers on standardised tests, especially in Australia. For instance, the relationship between an Australian student's exposure to formal mathematics and her mathematics 'performance' is one of the strongest in the world (OECD, 2014d, p. 153)⁴⁹. Therefore, the depth of study matters when one wishes to evaluate the comparative opportunities to learn given to students (acknowledging that learning opportunities condition educational performance). And DP students seemed to be rather certain that learning in the DP was a more thorough and wide-ranging activity than outside of it. This fact is all the more remarkable that, if we remember the results of chapter four, DP students were enrolled in already high-achieving schools. Accordingly, benefiting from a privilege in learning opportunities is likely to mean that DP students were given solid chances to obtain elite academic results in Australia.

Inasmuch as they often saw the DP as an accelerated and more complex course of study, it is not surprising to see that DP students also praised this program as a better preparation than the local Year 12 curriculum for academic success at university. Out of the 130 students responding, 85 percent agreed or strongly agreed with the idea that the

⁴⁹ Using the example of mathematics, the OECD (2014d, p. 146) clarifies: "exposure to more advanced mathematics content, such as algebra and geometry, appears to be related to high performance on the PISA mathematics assessment, even if the causal nature of this relationship cannot be established".

DP provides better future educational opportunities than the state curriculum, whereas five percent disagreed (strongly or normally). DP students were broadly convinced that they were enjoying a superior senior secondary experience compared to their non-DP peers, conducive to enhanced future educational perspectives. We can thus complete the picture drawn from the reasons DP students gave for enrolling in the program. If it is true that DP students saw the DP curriculum and the policies regulating the value of the DP credential as two major reasons for their enrolment in the DP, the results presented in this section indicate that they also indirectly saw the enriched conditions in which it was taught as part of the superior quality of the DP opportunity.

The coherence of DP students' responses to the different questions discussed in this section makes their response to the central multiple-choice question of the survey more readily understandable. I asked DP students to express their level of agreement with the following statement: 'The DP is a better preparation for selective university entrance than the local high school curriculum'. When assessing the comparative quality of the DP opportunity for selective university entrance, DP students were overwhelmingly persuaded that the DP was superior to the local Year 12 course. The top response from the 130 DP students who answered was a strong agreement, with almost half (46 percent) of respondents choosing that option. Comparatively, no student strongly disagreed, and three percent disagreed with the claim that the DP constitutes an advantage for accessing prestigious universities and their selective courses. No less than 87 percent of respondents tended to agree or strongly agree. DP students were *29 times more likely* to agree that the DP offers a positional advantage for selective university access in Australia than to disagree. The following graph summarises students' responses regarding the quality of the DP experience:

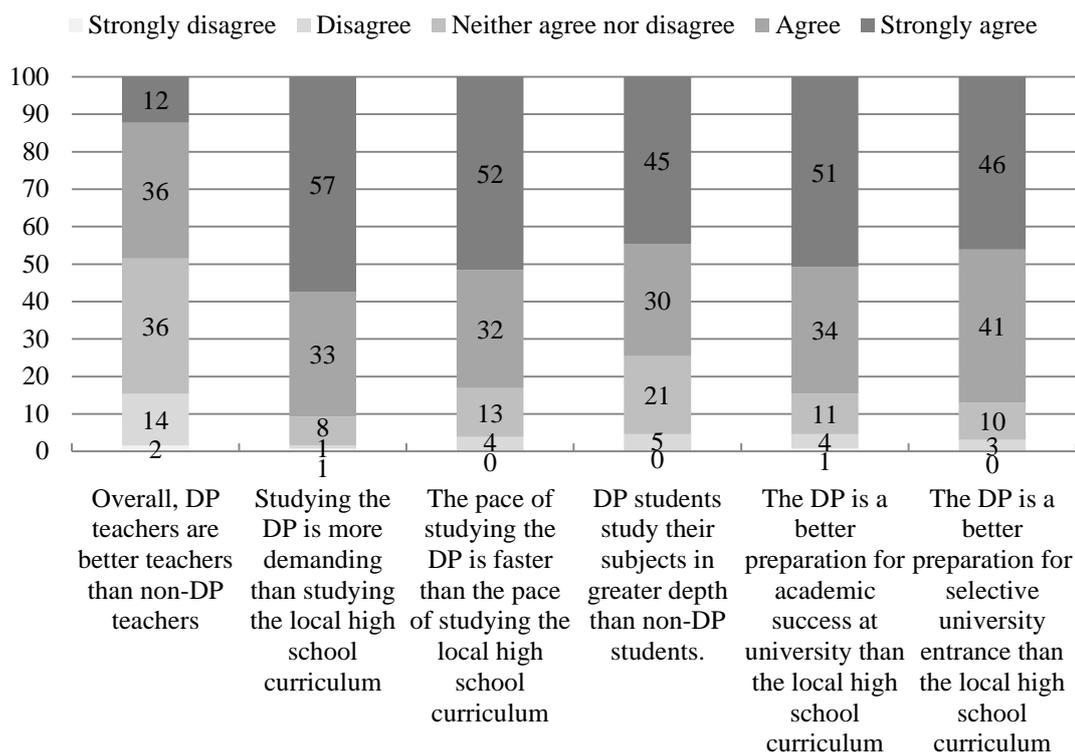


Figure 2: DP students' responses to six questions about the quality of the DP experience in 2015

Based on 2015 DP students' responses, it appears that the DP is perceived as an educational opportunity superior in quality to the state curricular alternatives. This statement is supported by evidence about the academic results associated with the DP (chapter four) and about the conditions for high academic performance available in the DP (this chapter). The upper-end outcomes obtained by DP students rested on a high quality educational experience, made possible thanks to the resources available in DP schools and the comparative learning conditions associated with the DP. At a general level, the superior opportunity of the DP for its students resides in the combination of premium teaching and learning experiences (determined by the resources made available for DP students in DP schools) and the first-rate value attributed to the DP by the Australian education system (at the schooling and university levels), through its implementation, recognition, and score conversion policies.

III. The quality of the DP opportunity: relating DP experience and outcomes

The data I have collected on the 2013 academic year in DP schools indicate that DP schools in Australia benefited from a high level of resourcing, in economic capital as much as in human capital. On the other hand, I also outlined the diversity of income per student and students per teacher values between different DP schools. One of the major reasons for bearing the diversity of DP school situations in mind is that the amount of resources available to schools can weigh on students' performance.

1. DP schools' economic resources and performance

For DP schools, the level of income per student contributes to explaining the school performance in standardised tests, albeit to varying degrees depending on the competence assessed. I examined the relation between DP schools' economic resources and their NAPLAN Year 9 results. I divided the population of DP schools for which NAPLAN data were available (54) in three groups of equal size (18 institutions in each) based on their NAPLAN scores: these three groups are labelled 'weak', 'average', and 'strong' performing DP schools. I repeated this procedure for each of the NAPLAN Year 9 skills. I then applied the same principle to classify DP schools into three categories based on their level of income per student: these categories are labelled 'high', 'medium', and 'low' income DP schools⁵⁰. High-income Australian DP schools received a NRIPS of \$21,870 or more in 2013, low-income DP schools an income per student of \$17,152 or less, and medium-income DP schools an income comprised between these two boundaries⁵¹.

The results suggest that school income was an important variable with regards to all types of academic competence assessed in NAPLAN. Specifically, the relationship

⁵⁰ These labels are relative and meaningful only within the population of DP schools. For instance, a medium-income DP school no doubt is a high-income school if one compares it to all Australian schools.

⁵¹ It must be noted that the three categories of school income have been established using the 60 DP schools, while the three categories of NAPLAN performance have been established using 54 DP schools (excluding the 6 missing cases). Accordingly, when using the income categories in conjunction with the NAPLAN performance categories, the three groups based on economic resources do not contain the same number of schools (20, 17, and 17 for high-, medium-, and low-income schools respectively). This comment is valid for all cross-tabular analyses involving NAPLAN scores.

between academic performance and economic resources was strongest for numeracy skills and weakest for spelling skill. However, even for spelling skills, NAPLAN performance and school income remained related to one another. Amongst the 18 DP schools weak in spelling, 22 percent had high incomes and 44 percent had low incomes. At the other end of the performance spectrum, amongst the 18 DP schools strong in spelling, 56 percent were high-income and 17 percent were low-income institutions. It is easy to notice the inversion of proportions depending on the tier of performance we are focusing on. For DP schools labelled as average in spelling, finally, low-income, medium-income, and high-income schools were equally represented. Altogether, there was a distinctive economic factor at play in the academic outcomes of students in DP schools. This robust relation between a school income and its academic performance can be identified for all the other categories of NAPLAN tests.

When it came to writing, the 18 weak DP schools were made up of 61 percent of low-income schools and 17 percent of high-income schools, whereas the category of strong performers hosted 56 percent of high-income and 11 percent of low-income schools. In reading, DP schools with high incomes represented 17 percent of the weak performers and 63 percent of the strong performers, while DP schools with low incomes represented 61 percent of the weak band and 6 percent of the strong band. In grammar, low-income schools were almost three times more represented than high-income schools amongst weak performers (21 percent and 58 percent respectively), while DP schools with high incomes were more than three times more common than DP schools with low incomes among strongly performing schools (56 percent versus 17 percent). Lastly, while high-income DP schools were nearly four times more common than low-income DP schools amongst strong numeracy performers (67 percent against 17 percent), the latter were more than 10 times more commonly found than high-income schools amongst weak performers (67 percent as opposed to 6 percent).

In summary, across the board of NAPLAN skills, DP schools' economic resources contributed to explaining the differences in academic performance existing between different categories of DP schools. Schools' economic resources matter if one wishes to explain the position of a given school within the hierarchy of academic performance. In other words, the quality of the DP opportunity varies according to the school in which it is implemented, and higher-income DP schools tend to lead their students to better academic results than lower-income DP schools.

2. DP schools' human resources and performance

The importance of resources for explaining DP schools' academic performance is even more striking in the case of human capital. The relationship between a DP school's student-teacher ratio and its students' academic results is marked. For this analysis, I categorised DP schools into three groups based on their student-per-teacher ratio. I labelled the third of DP schools richest in human capital 'extensive manpower' institutions; the label 'limited manpower' was applied to the third of DP schools least endowed in teachers per student; and the remaining third of DP schools was qualified as 'medium manpower'⁵².

Extensive manpower DP schools represented 17 percent of DP schools performing weakly in reading, 17 percent of DP schools weak in numeracy, 21 percent of DP schools scoring weakly on the grammar test, 22 percent of DP schools performing weakly in spelling, and 28 percent of DP schools weak in writing. At the opposite end of the human resource scale, limited manpower DP schools represented 56 percent of weak performers in spelling and the same proportion in reading, 58 percent of weak performers in grammar, while the categories of weak performers in writing and numeracy both comprised 67 percent of limited manpower schools.

If the representation of DP schools with different levels of human resourcing amongst weakly-performing DP schools is seen as a photograph, the representation of DP schools with their varying levels of human resourcing amongst strongly-performing DP schools shows its negative. For the DP schools that were strong NAPLAN performers, the photography is a negative of the one obtained for weak performers. The following values are the respective representations of extensive and limited manpower schools in each category: 56 percent versus 11 percent in strong numeracy performers; 56 percent versus 17 percent in grammar; 56 percent versus 19 percent in reading; 50 percent versus 22 percent in writing; and 44 percent versus 22 percent in spelling. To summarise and make these results more telling, DP schools with a high ratio of teachers for their students were far less likely to perform poorly in NAPLAN than DP schools

⁵² I remind the reader that these labels are meaningful only in relative terms (that is, in the context of the population of DP schools).

with a more limited number of teachers for their students. The following table summarises these results:

	Reading		Spelling		Grammar		Writing		Numeracy	
	High scores	Low scores								
Limited manpower DP schools	19	56	22	56	17	58	22	67	11	67
Extensive manpower DP schools	56	17	44	22	56	21	50	28	56	17

Table 11 Percentages of extensive and limited manpower DP schools amongst high-performing and low-performing DP schools across NAPLAN skills in 2014

For each NAPLAN competence, DP schools rich in human capital were less than half as likely as DP schools poor in human capital to perform in the bottom third of DP schools' NAPLAN scores, and more than twice as likely as DP schools poor in human capital to perform in the top third of DP schools' NAPLAN scores. The exact same statement is applicable to DP schools' distribution across the spectrum of NAPLAN performance based on their income per student.

In order to contextualise these 'low performances', the reader shall bear in mind that the lowest-achieving third of DP schools still performed better than the average Australian school in all five NAPLAN skills. Given that over 90 percent of DP schools performed better than the average Australian school (on average across all NAPLAN skills), DP schools' human and economic resources contributed to differentiating between average-performing and (very) high-performing schools. In fact, DP schools with high economic resources and DP schools with extensive human resources are likely to have been the same schools. Accordingly, the most advantaged of DP schools possessed multiple forms of assets, and DP students in such schools are likely to have benefited from better educational opportunities in many ways.

IV. Conclusion

The previous chapter has established that the DP is linked to superior educational outcomes in Australia, at the school level as much as at the program level. This superiority crosses the range of educational achievements, from NAPLAN results to ATAR ranks, and all the way to the university and occupational aspirations of DP students. In this chapter, I have looked at the comparative quality of the DP opportunity from another angle. I focused on the resources available in DP schools as well as the comparative opportunities for high academic performance given to DP students. In other words, while chapter four addressed the DP outcomes as an indirect indicator of DP quality, chapter five has provided more direct elements about the DP experience.

In my inquiry about the privilege of a DP education, I have revealed that the DP seems to offer a superior form of educational experience in Australia. DP schools enjoy a significantly higher level of economic and human resources than non-DP schools. This advantage in terms of resources is particularly meaningful for the distribution of educational chances, as it is likely to entail an unequal distribution of opportunities, where the DP alternative is in a privileged position compared to the other alternatives at the senior secondary level. Indeed, as the OECD (2013c, p. 43) analysis of many countries revealed, the role of students' socioeconomic background in determining their academic results is largely mediated by the resources invested in the schools they attend. The unequal distribution of educational resources is thus a central factor in the overall distribution of educational opportunities. And in Australia, it appears that the DP alternative constitutes a superior educational opportunity, when resources are considered.

One limitation of this chapter is the absence of objective indicators of the comparative superiority of the DP experience within DP schools. With no quantifiable measure of the specific advantage of DP students over non-DP students in DP schools available, I was led to rely on DP students' subjective judgement of this superiority. Conducting further research on this comparative feature within DP schools would be a fruitful avenue of inquiry. Nevertheless, if we trust DP students' evaluation of their situation, the DP seems to offer a qualitatively superior academic experience leading to superior educational chances. Even if a portion of these students' opinions were to be

seen as biased and unreliable, the extent to which these students see the DP pathway as superior instils confidence in the reliability of the overall trend.

Despite their limitations, the results presented in this chapter are consistent with the findings of several researchers who have studied educational differentiation based on tracking (or streaming). Adam Gamoran, one of the main specialists of the relation between tracking and inequality, summarised the complex array of findings on streaming by asserting that, when tracking exacerbates inequality, it does so mainly because of what he labels as “instructional variation”. For Gamoran (2009, p. 217), this term refers to a superior quality of teaching provided in the ‘high tracks’, based on (1) a more challenging content, (2) a faster pace of learning, and (3) more experienced teachers being allocated to the ‘high tracks’. Interestingly, we find most (if not all) of these constitutive elements of instructional variation in the comparison between the DP and state curricula in Australia. This similarity gives credit to the idea that the ‘curriculum alternative’ form of educational differentiation shares with tracking-based differentiations similar implications for the (re)shaping of the educational opportunity structure. In Australia, the emergence of the DP alternative seems to have led to a form of instructional variation compared to the regular curriculum, where the DP alternative has been providing superior chances to its students.

However, regimes of curricular alternatives constitute a more complex form of educational differentiation than tracking. Since all students do not play the same curricular game anymore when curricular alternatives exist, the redistribution of educational opportunities that follows the institution of regimes of curricular alternatives goes beyond the simple redistribution of teaching and learning experiences that follows tracking reforms. In a regime of curricular alternatives, two or more educational games exist, and each of these games has its own set of rules. Yet, after participating in these different games, students are still competing against one another for scarce tertiary educational opportunities. Therefore, it is not only the different teaching and learning conditions between curricular alternatives that affect the distribution of educational chances; the very differences in the rules of each curricular game also shape the distribution of educational chances across different curricula. For that reason, it is essential to analyse the ‘rules of the game’ of the different curricula from a comparative point of view. I carry out this task in chapter seven.

The unequal distribution of resources between DP and non-DP schools and students implies that the fairly recent process of educational differentiation that has led to the emergence of curricular alternative situations in Australia has simultaneously led to an unequal distribution of educational chances between different alternatives. The different alternatives available to senior secondary students in Australia are not equal to one another: the DP alternative is more likely to lead students to superior academic results, and thus to better tertiary educational chances. As a result, it must be noted that the ‘curriculum alternatives’ type of educational differentiation is not neutral when it comes to the educational opportunity structure. In Australia, this process has implied a hierarchy of curricular alternatives, opportunity-wise.

This conclusion has theoretical implications for the case of curricular alternative regimes in an educational market. The number one alternative curriculum at the senior secondary level in Australia appears to have created a gap between DP students and non-DP students, not only in terms of results but also in terms of the educational experience given to them. Importantly, this division has taken a hierarchical form and has been based on the principle of unequal distribution. Bearing in mind the market structure of the senior secondary school system in Australia, the case of the DP alternative provides a first indication of the ways curricular alternative regimes can affect the structure of educational opportunities when made available in a market school system with similar framing lines as the Australian one.

Catherine Doherty has conducted empirical research on the DP in Australia. She explains that the DP has been used by students to gain a comparative advantage and optimise their chances of obtaining their desired university courses (Doherty, 2012, p. 183). In other words, her conclusions suggest that one of the very reasons for students to choose the major alternative curriculum in Australia is precisely because it gives them an advantage in the competition for scarce university opportunities. While the introduction of curricular alternatives has transformed the structure of educational opportunities and their distribution, it is this very structure of educational opportunities that seems to determine—at least partly—students’ enrolment in one or another of the alternatives. Students and their families’ subjective relation to the educational opportunity structure contributes to shaping their educational ‘choices’.

In an educational opportunity structure where the most prestigious and profitable chances are scarce and distributed on a competitive basis, students and their

families can develop strategies for optimising their use of the educational system. Catherine Doherty (2012, p. 192) rightly notes that these strategies of optimisation pre-exist the implementation of alternative curricula such as the DP. They are present at nodal points in the educational opportunity structure, such as in senior secondary education in Australia. At the same time, she also perceptively remarks that these optimisation strategies are reinforced in schools implementing the DP (Doherty, 2012, p. 192).

Generally speaking, one can argue that the emergence of curricular alternative regimes in education systems whose opportunity structure is shaped around the three principles I have outlined in chapter one (and in which curricular alternatives are provided on a 'choice' basis, in accordance with my definition of curriculum alternatives outlined in chapter two) introduces an additional stratum in the panel of strategies theoretically available to students and their families. To the extent that this additional layer of strategies becomes mastered more successfully by students from privileged social backgrounds, the emergence of curricular alternative regimes thus contributes to facilitating the education-based reproduction of social inequality.

Given that the DP opportunity appears to be superior to its alternatives in Australia, what are the social origins of students in the DP program? If I were to unravel an overrepresentation of students from privileged social backgrounds in the DP, it would imply that the introduction of the DP alternative in the Australian education system has made this form of educational differentiation a facilitator of the education-based reproduction of social inequality. The following chapter answers this question.

Chapter Six

The Social Topography of the DP

In this chapter, I investigate the socioeconomic conditions of access to the DP in Australia in order to understand the *social* distribution of the DP opportunity. I set this inquiry in motion by focusing on the profile of DP schools. I examine a variety of DP schools' properties, ranging from the school sector they are part of, to the socioeconomic profile of their student populations. I then turn towards the social origin of DP students. Given the importance of *inherited* properties in the model of reproduction of social inequality presented in chapter one, I examine the economic and cultural capital endowments of DP students. I conclude this chapter by highlighting the variety of profiles in the populations of DP schools and students and analysing the relations between the quality of the DP opportunity and its social topography.

I. The profile of DP schools

1. The geography of the DP

The DP is disseminated unevenly on the Australian map. One variable that can be insightful in terms of socioeconomic selectivity is the distribution of DP schools by 'geolocation'. Based on the four categories of geolocation used by ACARA (metropolitan, provincial, rural, and remote), I noted earlier that DP schools are virtually absent from any non-metropolitan environment: in 2014, 97 percent of them (or 58 institutions) were metropolitan schools while just two schools were provincial ones.

Metropolitan regions are systematically associated with better academic results in Australia. For all five NAPLAN competencies, schools in metropolitan areas perform better than schools in any other geolocation category (ACARA, 2014d, p. 198; 209; 220; 231; 242). In the same vein, Year 12 certification rates reached 76 percent in metropolitan areas, 68 percent in provincial areas, and 55 percent in remote areas in

2014 (ACARA, 2014e, p. 38). The ‘urban advantage’ is also visible when one uses PISA scores as a reference (OECD, 2013d, p. 2). Moreover, since students attending metropolitan schools come from higher socioeconomic backgrounds than students outside of these zones (OECD, 2013d, p. 1; Welch, Helme, & Lamb, 2007, p. 279), metropolitan regions are also on the advantaged side of the socioeconomic spectrum in Australia.

Given that DP schools are almost exclusively present in metropolitan area, they are likely to serve families whose children come from privileged backgrounds. However, as both of the references just cited also note, socioeconomic inequality is not sufficient to explain the difference in academic results between metropolitan and non-metropolitan students. There are *qualitative* differences in the education provided to these two groups of students that determine their unequal educational outcomes and future opportunities. Acknowledging that I have demonstrated in chapters four and five that the DP constitutes a high-quality educational opportunity in Australia, the program may be one of these factors that contribute to the reproduction of social inequality through education.

2. DP schools and the ‘great Australian divide’

One commonly noted specificity of the Australian school system is its very large non-government school sector. A second idiosyncrasy of the Australian school system is the significant level of government funding going to non-government schools (OECD, 2012, pp. 19-21). A third salient feature of the Australian educational structures is the socioeconomic inequality between school sectors. Non-government schools tend to enrol students from higher socioeconomic backgrounds than government schools (Campbell et al., 2009, p. 74; Gonski et al., 2011, p. 9; OECD, 2012, p. 30; 84; Thomson, De Bortoli, & Buckley, 2013, p. xxii), as well as to enjoy superior levels of resourcing than their government counterparts (Bonnor & Shepherd, 2016a, p. 15; Connors & McMorrow, 2015, p. 3; Sherington & Hughes, 2015, p. 169). In other words, the structures of Australian education make the school system propitious to contribute to the reproduction of social inequality. Given these significant differences across sectors, the distribution of DP schools between the three school sectors can have implications for the socioeconomic positioning and accessibility of the DP.

In chapter three, I briefly mentioned that 82 percent of DP schools in Australia in 2014 were in the non-government sector and 18 percent in the government sector. The DP was practically absent from the Catholic school sector in Australia: 48 out of the 49 non-government DP schools in 2014 were from the corporate sector. Exactly four out of every five DP schools were from the corporate sector in Australia in 2014. Given the scarcity of DP schools in the government sector (only 11 Australia-wide), it is likely that this heavy reliance on the corporate sector excluded most of the students who were unable to enrol in corporate schools. But the picture of the DP with regard to the ‘great divide’ of the Australian schooling system (Anderson, 2013, pp. 15-16) is not quite accurate yet. Indeed, the few government schools implementing the DP were not necessarily open and accessible to all students.

When government schools are selective on academic grounds at the school level or at the program level, their accessibility to students from all backgrounds can be compromised. As the OECD (2013b, p. 91) neatly summarises: “performance tends to be closely related to socio-economic status; so often the unintended results of separating students by performance is the separation of students by socio-economic status as well”. Four of the 11 DP government schools operated a selection process for choosing the students accepted into their establishment in 2015. Three of these four schools were selective academies offering the DP as their exclusive senior secondary curriculum. Amongst the seven schools with open entry policies, one subjected students’ acceptance into the DP to the DP coordinator’s approval, and two had very thorough DP enrolment procedures⁵³. Altogether, it means that less than seven percent of DP schools (four institutions) had an open entry policy (at the school and program levels) for accessing the DP in Australia in 2014.

Even in the case of these four DP schools, the open-access policies regulating school and DP program enrolments did not necessarily imply that inherited properties could not have determined students’ chances of accessing the DP opportunity. Enrolling in these schools may still have proven exclusive on economic grounds based on the housing and living costs of living in the catchment area that these schools served. Some

⁵³ For one of these schools, for instance, the elements required from the student as part of the application included evidence of her academic performance, her “personal qualities and beliefs”, a portfolio of work demonstrating the quality of the student’s “organisation, attention to detail, academic excellence and innovation”, and a statement retracing the student’s academic journey. This process was followed by an interview with two teachers based on three criteria. The typical applicant would be approximately 15 years old.

catchment areas, partly because of the presence of high-performing or prestigious schools in the vicinity, have seen their housing prices skyrocket in recent years (Campbell et al., 2009, p. 126). For open-access and high-performing government schools in such catchment areas, the limited enrolment capacity is sufficient to make them, in effect, accessible to middle-class and upper-class families exclusively. While not all of the government DP schools with open enrolment policies at the school and program levels are necessarily in expensive catchment areas, their limited number is sufficient to assert that the DP was an explicitly selective opportunity in 2014 in Australia.

3. DP schools' socio-educational advantage

ACARA's Index of Community Socio-Educational Advantage (ICSEA) is a valuable instrument for assessing the school-level degree of DP economic and cultural selectivity. ICSEA has two properties that make it particularly useful for analysing the distribution of educational opportunities based on students' social backgrounds. First, it has been constructed by combining various types of background properties that have been found to determine students' chances of educational success. Amongst these various properties, ICSEA primarily uses indicators of students' economic and cultural capital. ICSEA combines students' inherited properties (measured by the occupation and level of education of their parents) as well as school properties (their geographical location and the proportion of Indigenous students enrolled) (ACARA, 2015c). Second, it assembles student-level and school-level data to take account of the fact that both of these layers determine the education-based reproduction of social inequality. This instrument is thus very well designed for assessing the economic and cultural inclusiveness of different schools.

ICSEA values range from 500 (for a school in which students come from "extremely educationally disadvantaged backgrounds" (ACARA, 2014b, p. 1)) to 1300 (representing a student population coming from extremely advantaged backgrounds). The scale has been calibrated by ACARA to have a median ICSEA value of 1000 (ACARA, 2015a, p. 1). The ICSEA standard deviation is 100, implying that, on average, an Australian school sits 100 points away from the mean value. ICSEA values below 900 and beyond 1100 can be considered as representing, respectively, schools

with student populations coming from significantly disadvantaged and significantly advantaged backgrounds. The most socioeconomically disadvantaged schools have ICSEA values between 700 and 900, while the most socioeconomically advantaged schools tend to have ICSEA values between 1100 and 1200 (Bonnor & Shepherd, 2016b, p. 35). All 60 DP schools in this study have been attributed an ICSEA score by ACARA for the 2014 school year.

The mean index of advantage value for DP schools in Australia exceeded 1137 points in 2014. Accordingly, the typical DP school in Australia at the time was a significantly advantaged school in terms of the economic and cultural profile of its student community. This value places the average DP school well into the socioeconomically advantaged category, according to the 1100-1200 range provided in the previous paragraph. With a coefficient of variation below four percent⁵⁴, DP schools were also quite consistently located in that range of ICSEA values. The lowest ICSEA score was 982 (or 18 points below the national median), which means that not a single DP school in Australia had a significantly disadvantaged student population. On the other hand, the highest value was 1203 (or more than 200 points above the national median), which means that at least some DP schools enrolled a strongly advantaged student population. With a median ICSEA of 1151 for all DP schools (implying that half of the DP school population scored above that number), it is clear that most DP schools in Australia were resolutely privileged institutions, typically enrolling students from strongly advantaged backgrounds.

This statement can be confirmed by the exact distribution of ICSEA scores amongst the 60 DP schools. All DP schools but two were given a score of student population advantage above the national median: 97 percent of DP schools in Australia belonged to the upper half of the hierarchy of school privilege (based on the background of students enrolled). Exactly nine out of 10 DP schools received a social profile score superior to 1050; 77 percent scored an ICSEA above 1100 (making them significantly advantaged), and 30 percent of DP schools even achieved a score above 1175 (or 175 points above the median, while the standard deviation of the instrument was 100). In summary, no DP school in Australia was significantly disadvantaged, but more than three quarters of them enrolled significantly advantaged student populations

⁵⁴ The reader can compare this value to the coefficient of variation of 26 percent obtained when assessing the unequal possession of economic resources across DP schools in chapter five.

in economic and cultural—as well as geographical and ethnic—terms. These results constitute solid evidence regarding the restrictions placed on the distribution of the DP opportunity to students from disadvantaged social backgrounds: the DP opportunity was both of superior quality and unequally distributed to different social groups in 2014 in Australia.

The socioeconomic privilege of DP schools remains striking even when their profile is compared to the average metropolitan school. While the average ICSEA value for metropolitan schools stood around 1040 in 2015 (Bonnor & Shepherd, 2016b, p. 35), 93 percent of DP schools had an ICSEA value superior to 1040 in 2014. But it is probably the sector-by-sector comparison of ICSEA values between the average DP school and the average Australian school that is most informative. The following table displays the comparative ICSEA profile of DP schools and Australian schools in each sector, using Chris Bonnor and Bernie Shepherd's (2016b, p. 35) values for Australian schools overall:

	Government sector	Catholic sector	Corporate sector	Australia
Number of DP schools (2014)	11	1	48	60
DP schools' mean ICSEA value (2014)	1094	1144	1147	1137
Australian schools' mean ICSEA value (2015)	983	1041	1072	1040

Table 12: Comparisons of the average Index of Community Socio-Educational Advantage (ICSEA) for DP schools and Australian schools in the three school sectors in 2014 and 2015

Non-government DP schools clearly enrolled a more privileged student population than government DP schools, by more than 50 ICSEA points on average. Yet, these results not only indicate that the gradient of social advantage between school sectors existing for Australian schools in general was also evident in the population of DP schools. They mainly suggest that the average DP school was *systematically and greatly* socially exclusive compared to the average Australian school from the same sector. In any sector, the ICSEA value for the average DP school was superior to the ICSEA value for

the average Australian school by at least 75 points (for the corporate sector), and by as much as 111 points for government schools. Interestingly, the relative socio-educational privilege of DP schools (compared to Australian schools in the same sector) was greatest in the most socioeconomically inclusive school sector—the government one. Accordingly, equating the presence of the DP in government schools with its socioeconomic accessibility would be a paraloxism in the Australian context. The implementation of the DP in Australian government schools has not made the DP opportunity accessible in significant proportions to students coming from less privileged backgrounds.

The state-by-state breakdown of the ICSEA profile of DP schools also yields very interesting results. If one excludes Tasmania and the Northern Territory for having only one DP school (in which case calculating a mean value makes little sense), the average DP school in each territory had a very similar student profile to the average DP school *in all other states and territories*. The mean ICSEA value for DP schools across all jurisdictions fell within a 31-point range (the lower limit being the Australian Capital Territory (1122) and the highest value being New South Wales with (1153)). The following table outlines the state-by-state distribution of mean ICSEA values for DP schools:

	ACT	NSW	QLD	SA	VIC	WA	Australia
DP schools' mean ICSEA value	1122	1153	1123	1148	1139	1135	1137

Table 13: Average Index of Community Socio-Educational Advantage (ICSEA) for DP schools in Australian states and territories in 2014

In any Australian state or territory, the average DP school disproportionately enrolled students from privileged economic and cultural backgrounds. I contend that this state-to-state similarity, evident despite the small number of DP schools in some of these states, is not a coincidence. One could expect to find explanations for the statistical regularity of the social background selectivity of the DP at the school level in Australia. I propose some elements of clarification for the consistency with which the DP was

associated with schools enrolling students from advantaged backgrounds in 2014 in Australia in chapters seven and eight.

4. Students' economic and cultural backgrounds in DP schools

The strengths of certain indicators can also be their weakness. For the ICSEA variable, the fact that it encompasses four types of educationally-relevant social background properties and combines school-level and student-level factors is great for gaining a comprehensive empirical grasp of the social determinants of the distribution of educational opportunities in Australia. At the same time, this very inclusiveness may in fact limit the usefulness of ICSEA for delving into the various dimensions of social inequality separately. Given the paramount importance of *inherited* properties in the reproduction of inequality model presented in chapter one, it would be valuable to use indicators focusing exclusively on students' parental attributes, especially their educationally-relevant capital endowments. Auspiciously, that is exactly what the Socio-Educational Advantage (SEA) quartiles do. It is important to notice that, while ICSEA was a school-level measure of advantage, SEA quartiles are relational measures of students' economic and cultural backgrounds.

SEA quartiles are *comparative* by design, since they assign an SEA quartile to a student based on her relative position in the distribution of socioeconomic profiles across the entire student population of Australia. Each individual student belongs to one and only one SEA quartile, calculated using the level of education and occupation of her father and mother⁵⁵. By aggregating the different responses into a single numerical value, ACARA attributes a given position on the scale of social background (dis)advantage to each student in Australia. ACARA then divides the continuum of socioeconomic backgrounds into four shares of equal size: these are the SEA quartiles. In order to make the terminology more digestible, I have labelled them Q4, Q3, Q2, and Q1, ranging from the lowest socioeconomic background quartile to the highest socioeconomic background quartile. ACARA does not communicate the SEA quartile

⁵⁵ I have explained, in chapter three, under what conditions academic credentials (as certified cultural capital) and occupations (as major income-producing activities) can be considered as appropriate measures of inherited economic capital and cultural capital.

attributed to each student nominally. However, each year, it does share the proportion of students from each quartile present in all Australian schools. By providing schools' Q4, Q3, Q2, and Q1 values on *MySchool*, ACARA makes available a school-level measure of students' economic and cultural capital⁵⁶.

The 2014 distribution of the student population in DP schools along the four SEA quartiles is available on *MySchool*. I analysed this distribution of social background profiles for all DP schools and the results are noteworthy. On average, across Australia, the student population of DP schools comprised five percent of students from disadvantaged backgrounds, 10 percent of students from lower-middle-class backgrounds, 23 percent of students from upper-middle-class backgrounds, and 62 percent of students from advantaged backgrounds⁵⁷. In comparison, it must be remembered that there were, by definition, 25 percent of students from each quartile in the average Australian school. With such a high value for students from Q1 in DP schools, it would be erroneous to label Australian DP schools as 'middle class' or even 'upper-middle class' schools, since lower-middle-class and upper-middle-class students represented only a third of all students in these schools. At least in 2014, these schools were serving more economically and culturally advantaged populations than the Australian middle classes.

Not only were there more students from Q1 than from any other socioeconomic quartile in DP schools; more strikingly, there were 45 percent more students from Q1 than from all three other SEA quartiles *combined*. Simply put, more than six out of every 10 students in DP schools came from an advantaged background, while this category only represents 25 percent of the Australian student population overall. On the other hand, disadvantaged students, lower-middle-class, and upper-middle-class students represent 75 percent of all students in Australia, yet they represented barely half of their proportionate share (38 percent of students) in DP schools. In Australia, the DP has thus largely been offered in schools where the majority of students had parents who were highly educated and worked in profitable occupations in 2014. Accordingly, it is statistically probable that most students enrolling in the DP program in these schools also came from privileged economic and cultural backgrounds.

⁵⁶ One consequence of the way SEA quartiles are constructed is that, for each school, the sum of its Q1, Q2, Q3, and Q4 values amounts to 100 percent.

⁵⁷ The reader can refer to chapter three for my definition of these terms in the context of this analysis.

Whereas the percentage of students from Q4, Q3, and Q2 varied within a range of 35 points between different DP schools, the percentage of students from Q1 covered a range of 73 points across Australian DP schools. This result means that, in 2014, DP schools were reasonably similar to one another when it came to their proportion of students from Q4, Q3 and Q2—they had a limited portion of students from these backgrounds. On the other hand, DP schools differed extensively from one another when it came to their proportion of advantaged students. No DP school had more than 35 percent of students from Q4, but one DP school had as much as 85 percent of its student population coming from the most advantaged quartile (Q1).

The sector-by-sector comparison of DP schools' economic and cultural profile to Australian schools' profile provides a very interesting perspective on the economic and cultural capital of students in DP schools. For this analysis, I used Bonnor and Shepherd's (2016a, p. 8) results based on *MySchool* data for all Australian schools in 2014 and compared them to the results I obtained for the DP school population. For the comparison of socioeconomic quartiles, I excluded the Catholic sector, since there was only one Catholic DP school in Australia in 2014. The results for the corporate and government sectors are represented in the graph below:

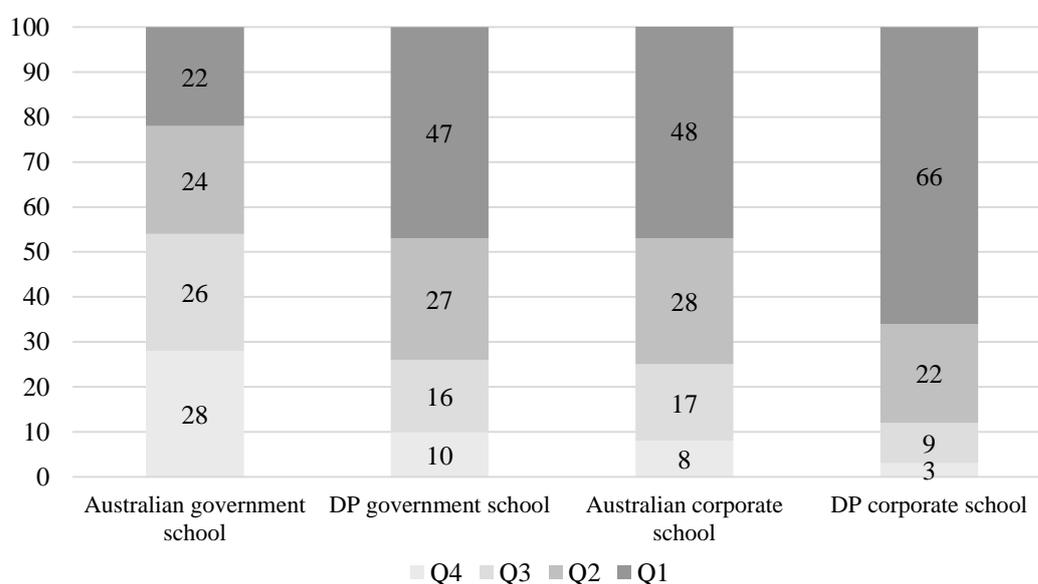


Figure 3: Proportions of students from each socioeconomic quartile in DP and Australian schools in 2014

In 2014, the economic and cultural capital of students in *government* DP schools was virtually identical to the economic and cultural capital of students in *Australian corporate* schools. Almost half of the students in government DP schools came from the most privileged socioeconomic quartile (Q1), while students from the lower half of the socioeconomic spectrum made up only a quarter of the student population in these schools. The government schools in which the DP was implemented in 2014 were thus far from being socially representative of the Australian student population. The presence of the DP in these government schools did not eliminate the social selectivity of access to the DP opportunity on economic and cultural grounds.

The background of students in DP corporate schools was even more socially restrictive and unrepresentative of the Australian population in 2014. As much as two thirds of all students in DP corporate schools came from the most privileged socioeconomic quartile (Q1), and the lower half of the socioeconomic spectrum of students made up 12 percent of students in these schools. In all school sectors, the economic and cultural background of students in DP schools was thus far more privileged than in the average Australian school from the same sector. Across all school sectors, the DP opportunity was thus primarily distributed to an economically and culturally selected portion of the student continuum.

Given the potential variety of DP schools' socioeconomic profiles within each sector, I decided to look at the socioeconomic profiles of DP schools in a 'sector-blind' way. I conducted four separate analyses, with each investigation focusing on one particular SEA quartile. In each analysis, I divided the total population of 60 DP schools into four clusters of equal size (15 schools). For a given SEA quartile, I ranked the 60 DP schools in ascending order of proportion of students from that specific SEA quartile in the school. I then grouped schools together in a cluster based on this ordering, that is, based on their proportion of students from the specific SEA quartile under investigation. The first cluster thus contains the 15 DP schools with the lowest share of students from that specific SEA quartile, and the last cluster contains the 15 DP schools with the highest share of students from that specific SEA quartile. I then repeated this procedure for the other three SEA quartiles.

If we start with Q4, the proportion of students from disadvantaged backgrounds was less than the Australian average (25 percent) in all four clusters of DP schools. The cluster of 15 DP schools with the highest proportion of students from Q4 had, on

average, 13 percent of disadvantaged students enrolled. At the other end of the spectrum, the situation was properly extreme: amongst the cluster of 15 DP schools with the lowest proportion of disadvantaged students, the average proportion of students from Q4 was one percent. The same verdict holds true even for the other two intermediate clusters of 15 DP schools, where respectively one percent and three percent of disadvantaged students were enrolled in 2014. In simple terms, it means that *three quarters of DP schools had, on average, less than three percent of their student population coming from disadvantaged backgrounds*. The relative inaccessibility of the DP opportunity to disadvantaged students was unambiguous. The following graph displays the results of the four analyses (one per SEA quartile) of four clusters of DP schools:

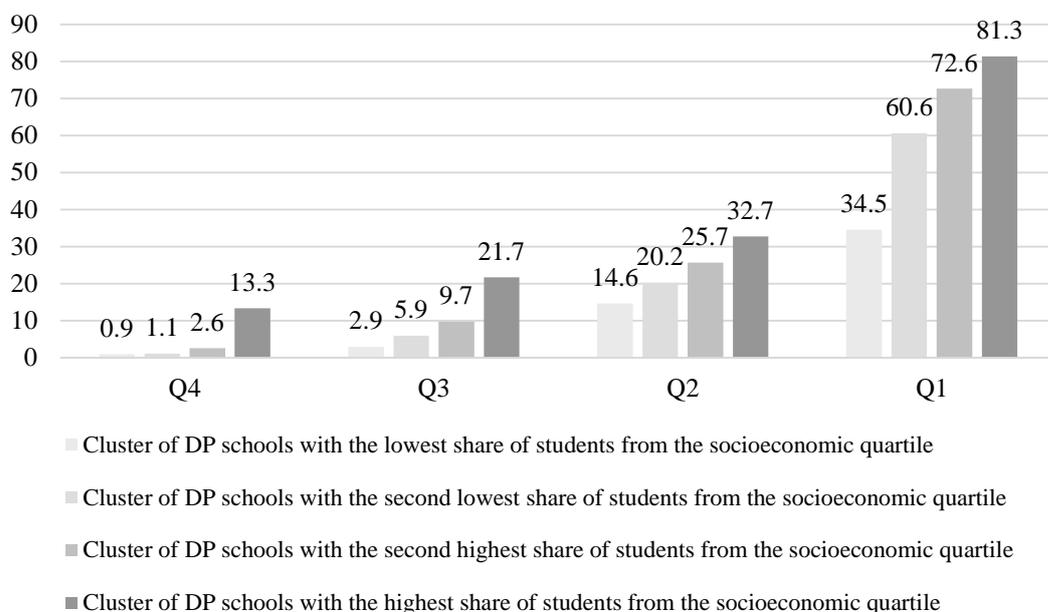


Figure 4: Four series (Q4, Q3, Q2, and Q1) of the mean percentages of students from a given socioeconomic quartile in four clusters of DP schools grouped by increasing proportion of students from that socioeconomic quartile in the school.

In 2014 in Australia, students from disadvantaged backgrounds were, because of the social profile of schools where the DP was implemented, overwhelmingly excluded from enjoying the benefits of the DP opportunity. Given that I demonstrated the superior quality of the DP opportunity in chapters four and five, these findings coalesce and imply that the introduction of the DP alternative in Australian education has been caught up in the education-based reproduction of social inequality. This recent form of

educational differentiation has contributed to the unequal distribution of educational opportunities between students based on their social origin. If 2014 results can be trusted for representing the current situation of the DP in Australia, it seems that the DP alternative contributes to the reproduction of social inequality by providing a *better* education to economically and culturally *advantaged* students, and leading them to *superior* academic results.

The contribution of the DP alternative to the school-mediated reproduction of social inequality relies as much on the overrepresentation of students from privileged backgrounds in DP schools as it rests on the exclusion of disadvantaged students from experiencing the DP opportunity. Even for the 15 DP schools enrolling the smallest portion of students from Q1, the average proportion of students with an advantaged background was 35 percent, or 10 points above the national share of advantaged students. The three other clusters of 15 DP schools all had more than half of their student population coming from advantaged economic and cultural backgrounds, with respectively 57 percent, 73 percent, and 81 percent (from the least elitist to the most elitist clusters of 15 DP schools). More than 50 percent of Australian DP schools had more than three quarters of their students coming from economically and culturally privileged backgrounds. Simultaneously, more than half of Australian DP schools had no more than one percent of their students coming from economically and culturally disenfranchised background. For this upper-half of Australian DP schools, students coming from an economically and culturally advantaged background were 75 times more likely to be enrolled than students from a disadvantaged background.

II. The social origin of DP students

Several questions included in the questionnaire can help in understanding the social origin of DP students. While the school-level analysis covers the entire population of DP schools, the questionnaire data only draw from a sample of the population of Australian DP students, taken from 10 different DP schools. Since the total number of DP students in each DP school is unknown, the sample of DP students who responded to the questionnaire has a built-in level of uncertainty that needs to be acknowledged. I do not claim that my sample is representative of the relative distribution of DP students

across different schools. Nevertheless, the representation of schools with students from different socioeconomic backgrounds is robust: while the ICSEA of all DP schools in Australia was 1137 in 2014, the ICSEA of schools represented in the student-level sample was 1139⁵⁸. Overall, the questionnaire data about DP students support the conclusions drawn from school-level analysis.

As a way of introduction, we can examine the demographic properties of DP students, before addressing their economic capital and cultural capital endowments more specifically. Based on the 147 responses I obtained, it was mainly girls who were enrolled in the DP in 2015 in Australia: 63 percent of respondents were girls and 37 percent were boys. Interestingly, this ratio is consistent with the results obtained by IGI Services (2012, p. 3) in their study involving 267 DP students, as they had noted that more than 60 percent of their respondents were girls. In the present survey, nearly all respondents (96 percent of them) were born in 1997 or 1998 (the standard years of birth for this cohort). Amongst the participating DP students, 71 percent generally spoke English at home. The other most common languages spoken preferentially at home were Chinese (8 percent of respondents when Cantonese and Mandarin are grouped together), followed by Somali and Dutch.

There were major differences between the countries of birth of DP students (represented in my sample) and those of the broader Australian population. For this analysis, I have compared the responses provided by DP students to the countries of birth of Australian residents aged 15 to 19 in 2015 (ABS.Stat, 2016). While 83 percent of Australian residents between the ages of 15 and 19 were born in Australia, only 63 percent of the 146 DP students who responded to this question were born in Australia. DP students thus seemed to be far more likely to be born overseas than the wider population. Students born in the UK were far more represented amongst DP students than in the Australian population of comparable age (8.2 versus 2.1 percent), and so were students from China (4.1 versus 2.0 percent), the US (2.7 versus 0.4 percent), Hong Kong (2.7 versus 0.3 percent), and the Netherlands (2.7 versus 0.1 percent). On the other hand, New Zealand-born students were largely underrepresented amongst DP students compared to their population share (no student versus 2.3 percent). It thus

⁵⁸ This result was obtained by calculating the mean value of the ICSEA scores represented in the DP student sample. In order to account for the relative representation of each school in the sample of DP students, all respondents were attributed their school's ICSEA, and these scores were used for the calculation of the mean.

seems that the DP in Australia has been largely used by customers originating from the Anglosphere (Vucetic, 2011, p. 3) and China (including its special administrative regions)⁵⁹.

From the point of view of the education-based reproduction of social inequality, however, DP students' countries of birth are less relevant than their inherited capital (especially their cultural and economic resources). Students' countries of birth tell us little about their socioeconomic background, since international migration occurs for disadvantaged as well as advantaged individuals and families. As mentioned in chapter three, there are two types of variables that I have used for assessing students' economic capital and cultural capital endowments: the first one uses their parents' educational outcomes as a proxy of students' inherited cultural capital, and the second one uses their parents' occupational positions as a proxy of their inherited economic capital. These two variables are the same ones that were used by ACARA for the calculation of schools' proportions of students from Q4, Q3, Q2, and Q1. In this section, they can be used to understand the social origin of DP students directly.

1. The level of education of DP students' parents

In Australia, a student with at least one tertiary-educated parent is almost two-and-a-half times (2.4) more likely to go to university than a student whose parents have a high school qualification at most, and more than four times more likely to go to university than students both of whose parents did not complete high school (OECD, 2014b, p. 93). For the age group ranging from 35 to 44 years old⁶⁰, the proportion of individuals with a university qualification was 30 percent in 2012 (Australian Bureau of Statistics, 2012c). For DP students, 58 percent of 142 respondents had a mother in possession of a

⁵⁹ Although they do not form a specific category based on their country of birth, it is worth noting that Indigenous students were virtually absent from the sample of DP students. Only one student out of the 147 who participated in the survey identified as Aboriginal or Torres Strait Islander. Their underrepresentation may be partly explained by the contrast between the geolocation and state-by-state distribution of DP schools, on one hand, and the distribution of Indigenous populations across geolocation areas and states and territories, on the other hand (Australian Bureau of Statistics, 2012a; Welch et al., 2007, p. 280). Another element of explanation may be the contrast between the multiple disadvantages suffered by Indigenous Australians (including in terms of economic and cultural capital endowments) (ACTU, 2014, pp. 23-25; Welch, Konigsberg, Rochecouste, & Collard, 2015, p. 97) and the typical social origin of students in Australian DP schools (as revealed in this chapter).

⁶⁰ This group has been taken as a point of comparison given that it is (1) made of individuals of a sufficient age to be parents of Year 12 DP students, and (2) the most educated group amongst all groups in the age of having 17 or 18 year-old children. By using this reference group, I ensure that I do not overestimate the comparative level of education of DP students' parents.

university degree, and 63 percent of 144 respondents had a university-qualified father. In 2015, the parents of DP students were *twice as likely to be university graduates* as the average 35-44 year-old person in the Australian population. As much as 72 percent of DP students had at least one university-educated parent in 2015 (out of the 139 students who provided information on both of their parents' level of education). This commonly prolonged experience of the school system amongst DP parents may no doubt have had implications for their own familiarity with the informal rules and codes of the educational world, which are likely to have benefited the educational career of their children. As such, it is reasonable to infer that DP students benefited from a significant degree of inherited and educationally-relevant cultural capital.

In accordance with the level of education of DP students' parents, it comes as no surprise that 87 percent of DP students' mothers had reached the end of Year 12, while 90 percent of their fathers had attained the same level of education at minimum. But this secondary school level of qualification is probably less instructive for the case of DP students than parental levels of qualification superior to a bachelor degree⁶¹. The rate of postgraduate university qualifications amongst DP students' parents was noteworthy. Exactly 15 percent of DP students' mothers had been awarded a master's level degree (by coursework or research). For DP students' fathers, 30 percent were master's degree holders. In comparison, for Australians in the age range of having children at the senior high school level, the highest rate of postgraduate qualification was six percent, combining all categories of postgraduate degrees (Australian Bureau of Statistics, 2012c). In 2015, it was thus *five times* more common to see DP students' fathers having obtained a master's level degree than to see 35-44 year-old Australians with a comparable level of education, and DP students' mothers were more than twice as likely to be educated at the postgraduate level as the average Australian adult of a comparable age. Accordingly, it is mainly to children of highly-educated parents that the DP opportunity was made available in 2015 in Australia. Given the underrepresentation of students with less-educated parents in the program, the DP opportunity was largely out of their reach.

This educational superiority in DP students' families is even more obvious at the summit of the hierarchy of academic credentials. The rate of doctoral-level certification

⁶¹ The reader may notice that bachelor degrees with honours and graduate diploma and certificates are not mentioned. Among DP students' mothers, 19 percent held a degree at that level of university qualification, while 21 percent of their fathers possessed such a level of qualification.

amongst DP students' mothers was six percent (combining professional and research doctorates), while nine percent of their fathers had reached this highest level of university credential. Comparatively, in 2014 in Australia, no more than one percent of the 25-64 years old population held a doctoral-level degree (OECD, 2015, p. 39). Therefore, research degree titleholders were clearly overrepresented amongst DP students' parents. It was as common to see DP students' mothers being doctoral title holders as to see 35-44 year-old Australians in possession of a postgraduate credential altogether. This significant extra-representation of research-educated individuals amongst DP students' parents no doubt conferred a significant advantage to DP students for understanding the expectations, requirements and tacit rules of Australian universities. This finding can help to explain why university aspirations were not only the norm for DP students, but also why their tertiary aspirations were often elitist ones. The rules of the university game surely have fewer secrets for students whose parents spent a long time experiencing them.

As I have argued throughout the thesis, the extent to which DP students' parents are university educated makes a useful indicator for their inherited and educationally-relevant cultural capital. University graduates are far more likely to have the capacity to help their offspring navigate the school system to their advantage and make the most profitable decisions in terms of their future educational and occupational life chances—such as enrolling in a high-quality alternative senior secondary school program—than parents who did not attend university. This remark is especially valid in a market model of schooling, such as the Australian one, designed around the rhetoric of parental choice—for those who can afford and have the right dispositions to choose—and enforcing market-style policies for shaping the system according to this rhetoric (Angus, 2015, p. 398). Parents are unequally equipped to *choose well* (i.e. to the advantage of their offspring), and families rich in educationally-relevant cultural capital no doubt are ahead of the competition. For that reason, it is understandable to see students from highly-educated families overrepresented in the DP, the latter being an educational opportunity of superior quality in Australia.

In a hypothetical school system, where the money parents currently use for providing superior educational opportunities to their children would not matter, it would be legitimate to focus primarily on cultural capital for analysing the education-based reproduction of social inequality and pay little attention to economic capital. However,

in the case of Australia, the inherited cultural capital of DP students constitutes only half of the most evident forms of social inheritance they can benefit from. Given the importance of economic powers in the distribution of educational chances in Australia (primarily through parents' chances of purchasing access to a high-achieving school for their offspring), it is also crucial for the researcher to focus on the economic capital that DP students inherit when their parents invest in their offspring's education. Here, a possible indicator of DP students' inherited economic capital can be found in their parents' occupational positions.

Precisely because there are differences in the quality of education provided in different schools, some parents are willing to pay high sums in tuition fees for enrolling their children in prestigious and academically successful schools. The structures of the education system—alongside the unequal distribution of economic resources—thus explain why economic capital is determining in the distribution of educational opportunities in Australia. The high tuition fees required for enrolling in numerous Australian schools excludes most social groups from being able to enrol in these institutions and provides additional resources for improving the quality of the educational opportunities provided to students who can afford to enrol in them. This “segregative advantage of fees” (Teese & Polesel, 2003, p. 119) in turn guarantees a school-level social selectivity that helps these schools in ensuring the academic success of most of their students.

2. The occupational situation of DP students' parents

Two of the survey questions posed to DP students are relevant to the analysis of their parents' occupational situations. Students were asked to describe their parents' jobs. I used the question wording adopted in the PISA study (OECD, 2013a, pp. 225-227) in order to generate comparable data. Each respondent was invited to describe her father and mother's main job, as well as to explain in a short sentence the main activities and tasks involved in their job. These responses were then used conjointly to attribute an Australian and New Zealand Standard Classification of Occupations (ANZSCO) code to each parent. I used the search facility included in the 2013 release (version 1.2) of the ANZSCO classification for coding the responses into the corresponding occupational categories (Australian Bureau of Statistics, 2013b). As often as possible, I coded

students' responses with the highest degree of precision (using 4-digit codes at least) suitable for the analysis.

After attributing these ANZSCO codes, I used the *Australian Jobs 2015* document released by the Department of Employment (2015) in order to assess the economic capital associated with the occupations. This document contains an occupational matrix (Department of Employment, 2015, pp. 36-42) opportunely based on ANZSCO. The interest of this matrix is that it classifies each occupation on a scale of before tax median weekly earnings (for full-time workers). The five brackets of income are as follows⁶²:

Income brackets	Very low income	Low income	Average income	High income	Very high income
Median weekly earning	≤ \$920	\$921 to \$1,050	\$1,051 to \$1,300	\$1,301 to \$1,700	> \$1,700

Table 14: Australian labour income brackets as categorised in the *Australian Jobs 2015* document

I have used these labour income brackets as a proxy indicator for the inherited economic capital of DP students, based on the income category associated with the occupation of each of their parents (assuming that parents with higher incomes are likely to invest more money into their children's education in order to give them superior educational chances).

DP students' parents were mostly workers or retirees who had worked until recently. Amongst the 147 participants, 140 students provided information on their mother's work situation. For these respondents, 40 percent of mothers were working full-time, 27 percent were working part time, four percent were not working (but looking for a job), and 29 percent were housewives or retirees. For those who were not working at the time of the survey (such as retirees or job seekers), the respondents often indicated the occupation held by their parent prior to being in a non-working situation. At the same time, 142 students responded about their father's work situation. Among

⁶² The income labels are mine, but the brackets are drawn from the Department of Employment (2015, p. 35) document.

DP students' fathers, 82 percent were full-time workers, nine percent were part-time workers, two percent were non-workers searching for a job, and eight percent were in the 'other' category (i.e. househusbands or retirees). Fathers were twice as likely to work full-time as mothers, and thus were less likely to work part-time or be in the 'other' category. On the other hand, DP students' mothers were more than three times as likely as DP students' fathers to be in the 'retiree or housewife' category.

The employment situations of DP students' fathers were similar to the situations of 15 year-old Australian students' fathers in 2012. Indeed, based on a secondary analysis of 2012 PISA data I performed⁶³, DP students' fathers and Australian students' fathers had similar levels of employment (82 percent working full-time for DP students' fathers against 83 percent for all Australian students' fathers; eight percent in the 'other' category for the DP population versus seven percent for the Australian population). On the other hand, DP students' mothers were less engaged in paid labour than mothers of Australian students overall (67 percent of DP students' mothers were working full-time or part-time while 75 percent of all Australian students' mothers were in the same working situation). To a certain extent, it thus seems that DP students' families were more often based on a patriarchal model of the division of occupational roles than Australian families overall. This assertion is supported by the fact that, based on the 142 students who responded for both of their parents' labour status, only 70 percent of mothers were in a paid occupation situation (or had been in the last 12 months before the survey) whereas 92 percent of fathers were in paid work (or had been in the year preceding the distribution of questionnaires).

The income scale included in *Australian Jobs 2015* and built on the ANZSCO classification has the potential to provide more detailed results on the occupational situations of DP students' parents. For the two questions about their parents' job, 129 students (or 88 percent of the participants) provided a *usable* response to their father's occupation and 126 students (or 86 percent) did so for their mother's occupation. Altogether, 96 percent of students who provided sufficient information about their father's job could have their responses coded at the maximum degree of precision (i.e. at the 4-digit level), and 90 percent of those who provided sufficient information about their mother's job could have their responses coded with the highest level of accuracy.

⁶³ The PISA data files for Australian schools and Australian students are freely accessible online from the Australian Council for Education Research (ACER) website: <https://www.acer.edu.au/ozpisa/the-australian-pisa-data-files>.

The transition from ANZSCO codes to income brackets led to a final sample including 128 responses (87 percent of the participants) about mothers' income and 124 responses (84 percent of the participants) about fathers' income.

For DP students' mothers as much as for their fathers, the most common income bracket was the second highest one, where individuals earned, on average, between \$1,301 and \$1,700 per week (before tax). DP students' mothers were in that situation in 31 percent of cases, and DP students' fathers were in that situation in 44 percent of cases. DP students' families thus seem to have been not predominantly in occupations included in the richest labour income bracket in Australia (based on the Department of Employment classification). At the same time, the fact that both parents in these families commonly belonged to the second highest income bracket means that DP students had good chances of having a relatively high level of economic capital at their disposal when their parents' resources were combined. Mothers and fathers can pool their resources and thus multiply the economic capital available for their offspring's education. From that point of view, DP students' plausibly sat on a stack of comfortable economic resources available for their education.

It is noteworthy that the second most common income bracket for parents of DP students was significantly polarised for the father/mother categories. Whereas the second most represented income bracket was the highest one for DP students' fathers (a weekly income superior to \$1,700 on average), the second most common income bracket for mothers was the lowest one (a weekly income inferior or equal to \$920, probably based on the absence of income for DP students' mothers who were not in paid employment). Therefore, while most DP students could count on an upper-range quantity of inherited economic capital from both of their parents, their fathers were more likely to provide the lion's share of this money than their mothers. If we combine the two highest income brackets in the scale, it appears that slightly less than one in every two DP students' mothers (46 percent) belonged to the two topmost income brackets and more than seven out of 10 DP students' fathers (71 percent) belonged to the two topmost income brackets. Altogether, DP students often came from upper-middle class or wealthy families in Australia.

These results could be biased for various reasons, amongst which the loose association between labour income and actual economic resources, the growing income elasticity within occupations, and even the methodological principles used for the

construction of the income brackets (where the range of values refers to the median income bracket for a range of diverse occupations) deserve to be mentioned. Even though wealth and material possessions are forms of economic capital, occupational income scales do not account for them. Indeed, material possessions can be income-deriving assets (investment properties are perhaps the most familiar case in Australia), but they can also grant their owner economic power *in kind*. For example, an expensive main residence in a wealthy neighbourhood can allow economically advantaged families to reside within the catchment area of a high-quality government school, a situation that can have important consequences for their children's educational chances.

More comprehensive research on the differential economic capital distributed between various social groups in Australia needs to be conducted. However, it is notably difficult to accurately measure actual economic resources. Since economic capital can take many forms (which can be more or less liquid), it is complicated to account for these multiple sources of economic power in a coherent manner. Moreover, the attitudes towards income and wealth disclosure no doubt constitute the prime obstacle to reliable research on the economic capital students can inherit from their parents. The problem of self-declared income and asset data is well-known to economists (Benedek & Lelkes, 2011, pp. 550-551), and it is hard to imagine ethical settings in which the researcher would be able to grasp the full extent of the economic resources owned by an individual or family. With self-declared income, on the other hand, the tendency to under-reporting is especially common for self-employed and high-income individuals, who are notably unwilling to divulge the breadth of their economic revenue and resources (especially in times where economic inequalities are growing and the magnitude of these inequalities is being made public).

Despite the importance of economic capital derived from non-labour activities, parental labour income remains a judicious place to start for understanding DP students' economic capital in the context of this research. In that regard, DP students generally benefited from superior levels of economic resources inherited from their parents. Economic resources can be made educationally relevant in the form of tuition fee payments parents can treat their daughter to. Generally speaking, it is in the form of intergenerational *gifts* (often symbolically considered as parents' moral duty) that DP students may have inherited their parents' economic capital. This category of inheritance is particularly relevant in the age periods when sons or daughters are not

financially independent, and when the quality of their opportunities are likely to strongly determine their future life chances, such as when they are school or university students.

Large-scale statistical research on intergenerational economic inheritance traditionally omits economic transmission during the lifetime of parents and focuses exclusively on deceased estate inheritance. This is an important shortfall, for pecuniary gifts while the parents are alive tend to become, on average, as economically important as post-mortem inheritance (Piketty, 2014 [2013], p. 392). For instance, having parents paying colossal tuition fees to enrol their daughter in a school where the quality of the educational experience provided is superior to what most other schools can offer is a clear form of intergenerational monetary gift practice that does not traditionally belong to the category of economic *inheritance*. Yet, it is an obvious case where students *inherit* the economic capital of their parents⁶⁴. It is also noteworthy that this often underestimated intergenerational transmission of economic capital is a clear manifestation of the family conatus towards intergenerational reproduction. It would be hard to make sense of parental decisions to pay tuition fees of more than \$10,000 per year of schooling for their daughter if they had no willingness to affect the position of their offspring in the social hierarchy these students will be part of as adults.

The occupational position of DP students' parents probably allowed them to earn significant amounts of money from their jobs. While the occupational situation of DP students' parents did not generally correspond to the most elite positions in the hierarchy of income, most of them still belonged to the upper rungs of the economic ladder (often just below the most advantaged groups). Based on the 114 respondents whose fathers' and mothers' jobs could be imputed in the income scale, 82 percent of DP students had one or both of their parents in the highest or second highest income bracket in Australia in 2015. DP students were thus likely to have benefited from the economic capital of their parents, and these resources may have been used to their advantage in the educational world.

⁶⁴ The impact of economic capital inheritance on life chances inequality is also visible in the case of young adults' transitions towards home ownership, where parental money can be particularly powerful (Druta & Ronald, In Press, p. 2; Forrest & Hirayama, 2009, p. 1008; 2015, p. 238). Once again, this form of transmission practice is often not considered as part of the category of economic inheritance in common-sense conceptions, which implies that the scope of inherited economic capital is largely understated in spontaneous ideas about inheritance.

Provided that parents' economic capital contributes to determining the quality of the educational opportunities their children enjoy, the DP opportunity seems to have been largely reserved to students from comfortable or privileged economic backgrounds. Given the increasingly systematic connection between academic titles and broader life chances outlined in chapter one, and given that the DP opportunity is superior to the local alternative (on average), the DP alternative is part of the circuit of reproduction of social inequality based on economic properties existing in Australia.

So far, I have demonstrated the underrepresentation of students from economically disadvantaged and average backgrounds in the DP in Australia, but I have not attempted to explain why the DP opportunity was not often given to students from poorer families in 2015. In chapter eight, I suggest that the tuition fee requirements for accessing DP schools can help in explaining the social selectivity of the DP in Australia.

III. Relating the quality and social topography of the DP opportunity

Thanks to the results presented in chapters four, five and six, we now have a detailed understanding of the position of the DP in the system of reproduction of social inequality in Australia. If we draw on school-level results as well as program-level ones, it appears that the DP typically (1) enrolls students predominantly from the superior segments of the economic and cultural hierarchies in society, (2) provides them with superior academic conditions, and (3) leads students to superior educational outcomes. The DP is an alternative senior secondary curriculum that can be considered as a superior educational opportunity primarily available to students from privileged economic and cultural backgrounds. To that extent, the DP contributes to the reproduction of social inequality in Australia.

The development of curricular alternative regimes at the senior secondary level in Australia has created new possibilities of educational hierarchy-making. The state curricula and the DP have not only come to coexist; the DP has become an opportunity superior to its alternatives. The introduction of competing alternatives in the Australian

education system has thus engineered a vertical transformation of the opportunity structure at the senior secondary level. At the same time, this hierarchical transformation of the educational opportunity structure has been paralleled with an unequal distribution of these opportunities according to the social origin of students. As the different curricular alternatives came to form a vertical structure, the upper rungs have been significantly appropriated by students from advantaged economic and cultural backgrounds. The school-level data I have analysed reveal that this appropriation by culturally and economically privileged families has largely been mediated by the schools in which the DP is implemented, as advantaged backgrounds are clearly overrepresented in such schools.

Of course, the DP's contribution to the intergenerational perpetuation of the unequal distribution of life chances is not automatic and invariable. This contribution is only statistical, that is, valid only from a probabilistic point of view. It is therefore important to bear the diversity of DP schools (their academic profile and level of resourcing) and DP students (including their academic and social backgrounds) in mind. In the previous chapter, I demonstrated that, within the population of DP schools, the institutions with superior resources obtained better academic outcomes than schools with less economic and human resources. In this section, I relate (1) DP students' economic and cultural profiles to their school's socioeconomic profile; (2) DP schools' socioeconomic profiles and their level of resourcing; and (3) DP schools' socioeconomic profiles and their academic results.

1. The relation between DP students and schools' economic and cultural profiles

In order to relate DP students' economic and cultural background and their school's socioeconomic profile, I cross-tabulated DP students' parental economic and cultural capital (measured by their occupational income bracket and level of education) and their school's ICSEA. This step is a useful method for understanding the extent to which DP students were economically and culturally related to the broader student population in their respective schools. To that end, I divided the 147 participants in the survey into three groups of 49 students based on their school's ICSEA, creating a low-ICSEA bracket, a middle-ICSEA bracket, and a high-ICSEA bracket. I then compared

the levels of education and income of DP students' mothers and fathers in the three different ICSEA groups.

This procedure revealed a clear relation between the income bracket associated with DP students' mothers' job and the ICSEA of the school attended by their daughter or son. The following graph displays the relation between these two variables:

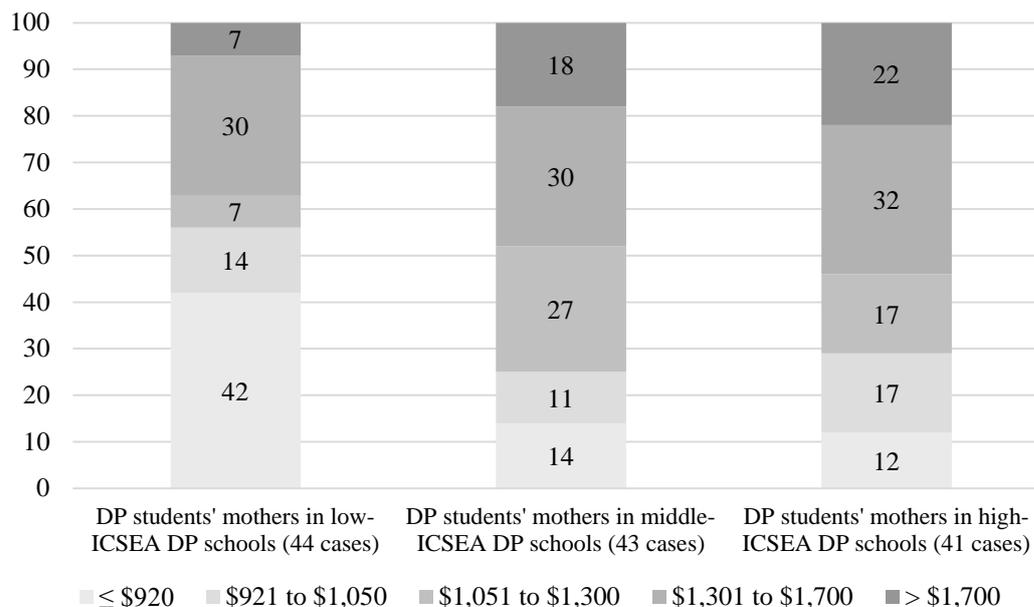


Figure 5: Percentage of DP students' mothers' occupations belonging to each income bracket based on the level of socio-educational advantage of the school attended by their offspring in 2015

While 42 percent of DP students in low-ICSEA schools had mothers with a job in the lowest income bracket, only 12 percent of DP students in high-ICSEA schools were in the same situation. At the other end of the spectrum, while only 7 percent of DP students' mothers in low-ICSEA schools had earnings in the highest income bracket, there were 22 percent of DP students' mothers in high-ICSEA schools in that situation. DP students' mothers with superior amounts of economic capital were more likely to send their children to schools with more advantaged students than mothers with inferior amounts of economic capital. This relation is confirmed on a school-by-school analysis of DP students included in the sample: while 52 percent of DP students' mothers in the lowest income bracket had sent their son or daughter to one of the two DP schools with the lowest ICSEA scores (amongst the 10 schools represented in the questionnaire), only 15 percent of DP students' mothers in the highest income bracket had enrolled

their offspring in one of these two schools. On the other hand, whereas 17 percent of mothers in the lowest income bracket had enrolled their child in one of the two schools with the highest ICSEA value, 50 percent of mothers in the highest income bracket had sent their daughter or son to one of these two top-ICSEA schools.

The relation between DP students' parental income and the social profile of their school remained unclear when I looked at fathers in low-income jobs only. Indeed, no matter the tier of DP schools considered (based on their ICSEA), less than 10 percent of DP students' fathers belonged to the lowest income bracket. A possible explanation for the absence of a clear relation between low-income DP fathers' earnings and the economic and cultural advantage of the school they had enrolled their daughter or son in may be that the vast majority of DP students' fathers belonged to the higher rungs of the income structure. Unlike DP students' mothers, the gradient of income for DP students' fathers was not clear-cut and covered the scale of income brackets only imperfectly, as the following graph illustrates:

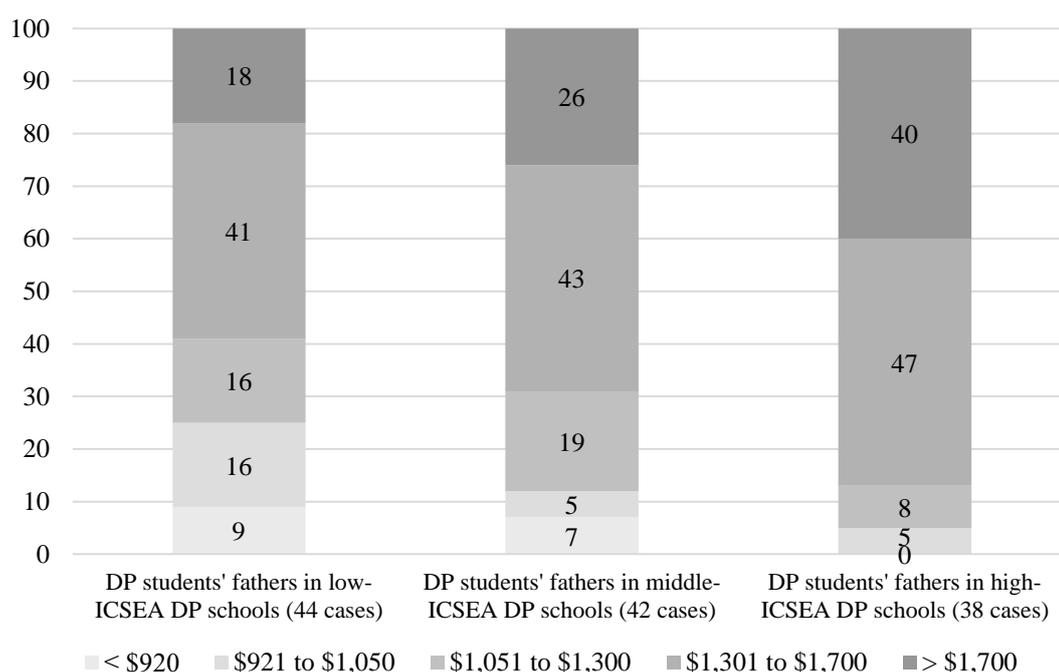


Figure 6: Percentage of DP students' fathers' occupations belonging to each income bracket based on the socio-educational advantage of the school attended by their offspring in 2015

The highest segments of the income scale proved to be more useful for analysing the relation between the income bracket of DP students' fathers and the socioeconomic profile of their offspring's school. Fathers of DP students in high-ICSEA schools were

twice as likely to have an income level in the highest bracket as fathers of DP students in low-ICSEA schools. In any tier of DP schools (based on their ICSEA) more than half of DP students' fathers earned income in one of the two highest brackets, and this proportion reached almost nine out of 10 fathers (87 percent of them) in the high-ICSEA tier of schools. If one combines the results for DP students' fathers and mothers, it appears that there was a solid relationship between the economic capital of DP students' parents and the concentration of economic and cultural advantage in these students' school.

If the overall profile of students in the school attended by DP students correlated with the economic capital of DP students' parents, their cultural capital may have been even more clearly linked to the socioeconomic profile of schools. Using the proxy indicator of the parental level of education, the difference of inherited cultural capital between low-ICSEA schools and high-ICSEA schools is remarkable. The following graph details the hierarchy of cultural titles for DP students' mothers based on the ICSEA tier of their offspring's school:

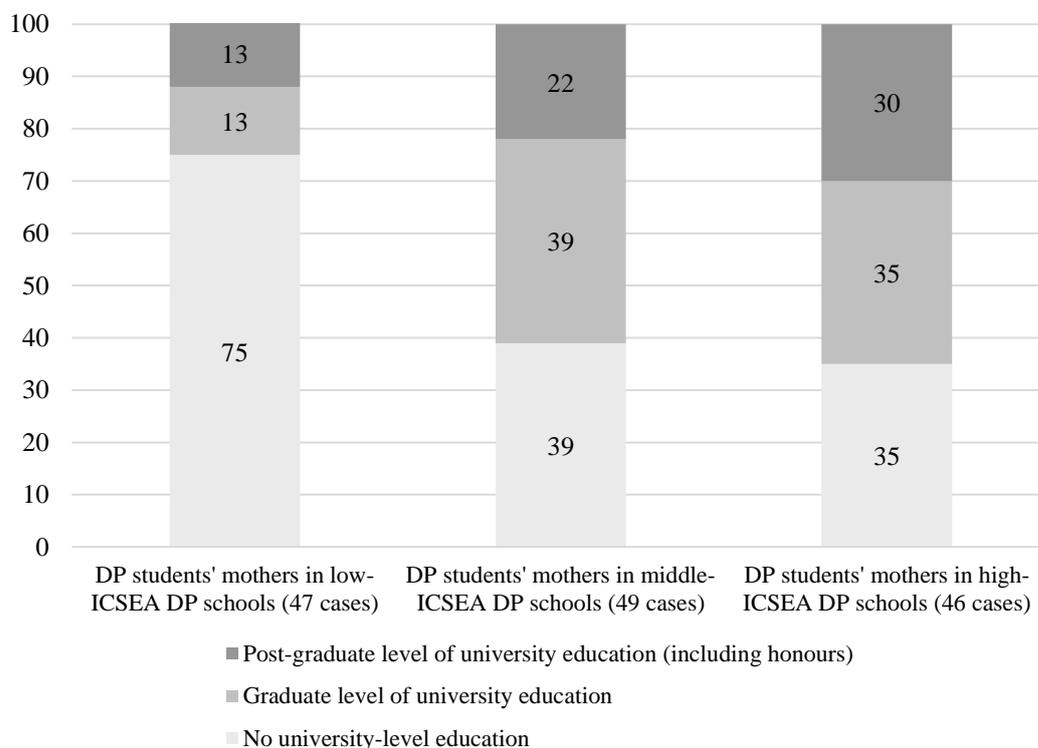


Figure 7: Percentage of university-educated DP students' mothers based on the socio-educational advantage of the school attended by their offspring in 2015

The level of education of DP students' mothers was spread fairly evenly across the three levels of university education (no university education, graduate level, or postgraduate level) in high-ICSEA schools. However, the share of DP students' mothers without university education far outweighed the proportion of mothers with any form of university education in low-ICSEA schools. For DP students' mothers, the proportion of postgraduate-level credential holders was more than twice as large in high-ICSEA schools as in low-ICSEA schools, while the percentage of mothers without a university education was more than twice as large in low-ICSEA schools than in high-ICSEA schools. Therefore, the social origin of students in DP schools was linked to the cultural capital of DP students' mothers. These findings regarding inherited cultural capital are transposable to the cultural endowment of DP students' fathers based on the school attended by their son or daughter:

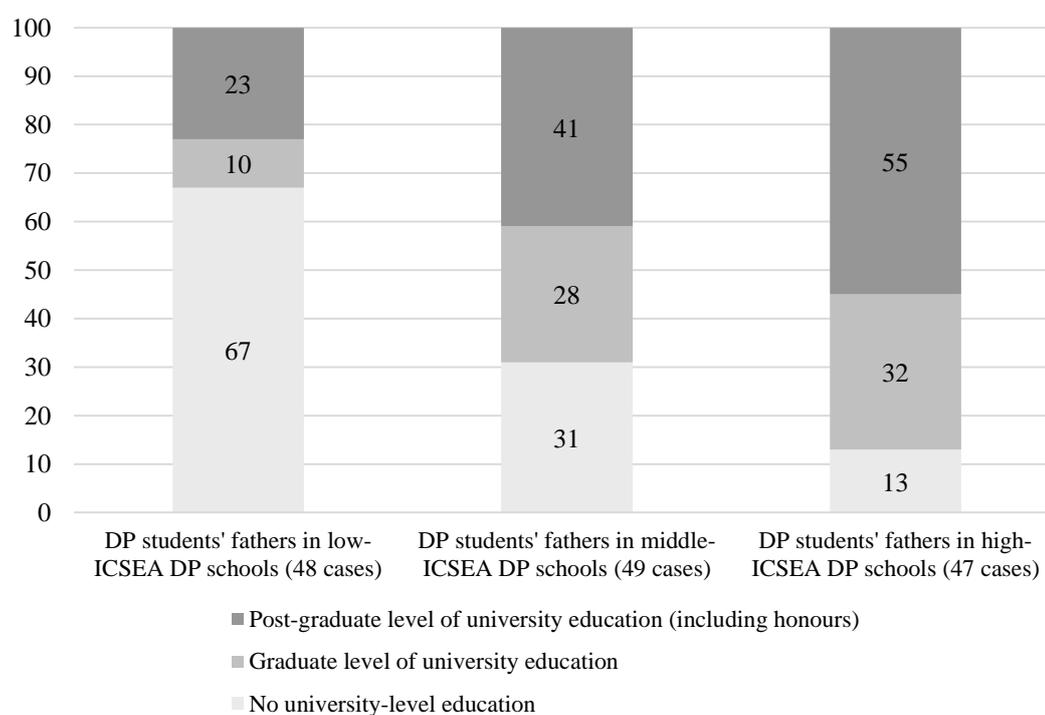


Figure 8: Percentage of university-educated fathers based on the socio-educational advantage of the school attended by their offspring

While the percentages of university-educated fathers were not identical to the percentages obtained for DP students' mothers (because DP students' fathers were generally more highly educated than their mothers), the relation between fathers' cultural endowment and schools' ICSEA was comparable. The proportion of

postgraduate-level credential holders was more than twice as large in high-ICSEA schools as in low-ICSEA schools, while the proportion of fathers lacking a university education was more than five times as common in low-ICSEA schools as in high-ICSEA schools. When the ICSEA score of a DP school increases, the proportion of DP students' fathers with a university education increases as well, and this trend is valid for graduate-level qualifications as much as post-graduate ones. Altogether, this analysis reveals that the economic and cultural background of DP students was related to the economic and cultural background of the broader student population in DP schools in 2015. The more economically and culturally elite the DP school was, the more likely DP students who participated in the survey were to come from privileged economic and cultural backgrounds as well. This result suggests that the profile of DP students in various DP schools is connected to the overall socioeconomic profile of all students in the school. Therefore, it also implies that the school-level analyses I have provided in chapters four, five, and six are likely to be relevant for DP students specifically.

2. The relation between students' social origin and resources in DP schools

Since the social origin of DP students and the economic and cultural background of the broader student population in DP schools are statistically linked, it is possible to use school-wide indicators of economic and cultural advantage as an indirect measure of DP students' profiles (acknowledging the margin of imprecision implied in taking this step). In order to examine the relation between the economic and cultural profiles of students in DP schools and the educational resources available in these institutions, I performed two correlation analyses: the first one examined the relation between DP schools' ICSEA and their income per student (NRIPS), and the second one tested the relation between DP schools' ICSEA and their student-per-teacher ratio. The coefficients of correlation between ICSEA and the two measures of school resources have been calculated using the IBM SPSS software⁶⁵.

⁶⁵ In order to meet the assumptions required for that procedure, I have assessed the normality of the distribution of values for these three variables using a graphical method (Tabachnick & Fidell, 2013 [1996], p. 79). Based on the display on normal Q-Q plots, even though the distributions of values for the ICSEA and student-per-teacher variables are not as straight as they are for the NRIPS variable, it remains that all three distributions can be considered to display a reasonably straight line, suggesting normal

The first analysis revealed a moderate correlation between DP schools' social topography (as measured by the ICSEA) and the human resources made available to their students (as measured by the student-per-teacher ratio). Using the Pearson product-moment correlation coefficient ($r = -.355$, $n = 60$, $p = .005$)⁶⁶, I was able to show that the economic and cultural profile of students in DP schools was related to the human resources present in such schools. Within the population of DP schools, as the ICSEA of DP schools increases, the number of students per teacher decreases, indicating that the human resources available to them increases. In other words, DP schools with advantaged student populations benefited from superior human resources than DP schools with less advantaged students. When compared to one another, DP schools with more advantaged students were able to give more to their students than DP schools with less advantaged students. This inequitable situation was mirrored in the domain of economic resources.

Using the net recurrent income per student (NRIPS) of each DP school, I found a strong correlation between a DP school's ICSEA and its NRIPS. The same Pearson correlation coefficient ($r = .514$, $n = 60$, $p = .000$), indicates that the association between students' socioeconomic backgrounds in DP schools and the economic resources available to educate them was stronger than the relation between student profiles and the human resources available in their schools. In other words, the difference of resources between advantaged DP schools and less advantaged DP schools (in economic and cultural terms) was more consistent for the extra money flowing in than for the supplementary teachers hired to teach students. Generally speaking, Australian DP schools with the most advantaged student populations were able to offer superior educational resources to their students (including their DP students). Those who already had the most privileged backgrounds were also those who received the most. We can thus combine these results with the results obtained in the previous chapters to make sense of the reproduction of social inequality in Australia, across the various contexts in which the DP is implemented.

distributions (Pallant, 2011, p. 63). The three Q-Q plots, as well as the results of descriptive statistics including the skewness and kurtosis values, are included as appendices.

⁶⁶ The categories used to describe the strength of the relationship between the two variables follow Cohen's (1988, pp. 79-81) description, where $r = .10$ to $.29$ corresponds to a small relationship, $r = .30$ to $.49$ denotes a moderate relationship, and $r = .50$ to 1.0 indicates a strong relationship. The significance level value has been set at ≤ 0.05 , following standard norms in social research (Ho, 2014, p. 4).

For DP schools, the institutions with the most socioeconomically advantaged students generally gave their enrollees the best opportunities for learning and obtaining superior academic results (compared to other DP schools with less socioeconomically advantaged students). DP schools enrolling students from more advantaged cultural and economic backgrounds were both (1) more likely to benefit from superior human and economic resources, and (2) more likely to obtain superior academic results on average. Therefore, the connection between the background of students in DP schools and their academic outcomes demonstrates that the DP in Australia has participated in the education-based reproduction of social inequality. At the school level, this participation seems to have been mediated by the resources available in different schools.

So far, I have asserted the existence of an indirect relation between student backgrounds in DP schools and student outcomes, through the mechanism of the resources available in these institutions. However, I have not yet directly demonstrated the relation between the socioeconomic profile of DP schools and their academic results. I now wish to provide more direct measures of the association between background and outcomes in DP schools, by studying the degree of association between DP schools' cultural and economic advantage and their academic outcomes. To that end, I have reused the ICSEA variable and matched it with the NAPLAN scores obtained by DP schools⁶⁷.

The results of the Pearson product-moment correlation analysis of DP schools' ICSEA and NAPLAN scores reveal that the correlation between students' socioeconomic background and their academic performance at the school level was strong for each of the five NAPLAN competencies ($p = .000$ in each case). The coefficients of correlation ranged from $r = .722$ in spelling to $r = .836$ in reading. In other words, for the population of DP schools, the correlation between the economic and cultural profile of students in the school and their academic results was statistically significant, strong, and valid across the range of academic skills assessed in standardised tests such as NAPLAN.

⁶⁷ The same visual procedures as in the previous section has been used for assessing the normality of the distribution of scores in the five NAPLAN competencies, leading to the judgment that the scores were normally distributed in all five cases (reading, writing, spelling, grammar, and numeracy). The Q-Q plots and the descriptive statistics (including skewness and kurtosis values) for the NAPLAN skills are reported in the appendices. Since there were six missing values for each category of literacy assessed by NAPLAN, $n = 54$ for this entire section.

This finding is consistent with the results of large-scale studies regarding all Australian schools. For instance, the OECD (2013b, p. 200) found that 56 percent of the variation in mathematics performance between Australian schools could be explained by the students' and schools' socioeconomic profiles. The results presented in this section mean that the correlation between student backgrounds and academic results existing in the entire school population of Australia is also valid for the small sub-population of DP school. More generally, PISA data reveal that most of the between-school variance in student performance is explained by the socioeconomic background of the school (Thomson et al., 2013, p. 269). The importance of students' economic and cultural backgrounds cannot be underestimated if we want to understand the distribution of academic outcomes (when students' backgrounds and their academic results are measured at the school level), and this statement holds true when the performances of DP schools are compared to one another.

The importance of students' economic and cultural background for determining the quality and variety of their educational opportunities explains the importance I have given to school-level measures throughout this research. Although students' academic results are determined by their socioeconomic background in Australia, this determination is largely mediated by the school(s) they have attended (i.e. the institutional contexts in which they have been provided with educational opportunities). Schools are the central educational sites where the skills of students are nurtured or deprived of educational sustenance.

If the most important factor for explaining school-level differences in PISA or NAPLAN results is the socioeconomic background of the students they enrol, and if this finding is valid for the performance differences in the sub-population of DP schools, it is reasonable to assume that it could also be true for the differences between DP schools in their average DP score. But why does this school-level determination matter for analysing the DP opportunity and its contribution to the reproduction of social inequality? If the differences of DP scores between DP schools can be partly explained by the socioeconomic profile of the students enrolled, it is likely that some of the virtues generally attributed to the DP *program* might actually be due to the schools the DP has been implemented in, as well as the students they enrol.

The hierarchy of academic results between different DP schools and the correlation between DP schools' academic performance and the social backgrounds of

their students imply that the quality of the DP opportunity is largely determined by the quality of the schools in which it is offered (itself determined both by the resources available and the social and academic backgrounds of students enrolled). The quality of the DP opportunity is not pre-determined; it is primarily determined by the contexts in and conditions under which it is made available. Consequently, the contribution of the DP alternative to the reproduction of social inequality is also dependent on the conditions of its implementation and the broader educational opportunity structure. Alternative curricula such as the DP do not seem to escape the broader determinations that tie academic performance to economic and cultural background in the Australian context. The major alternative curriculum at the senior secondary level in Australia appears to be caught in the education-based system of reproduction of social inequality.

3. The primacy of student backgrounds for explaining DP schools' academic outcomes

The relation between social origin and academic outcomes is not restricted to the comparison *between* DP schools. We can also compare the outcomes of DP schools to the outcomes of non-DP schools serving students from statistically similar socioeconomic backgrounds. This procedure allows us to evaluate the extent to which the academic superiority of DP schools over non-DP schools can be reduced to their socioeconomic superiority.

At the school level, comparing the academic results of DP schools to schools with similar student profiles is a good way of finding out if there is a distinctive educational superiority associated with DP schools that would be *irreducible to their economic and cultural profile*. Interestingly, *MySchool* offers the possibility of comparing the NAPLAN scores of given schools to the mean NAPLAN score for Australian schools with the same economic and cultural profile (as measured by ICSEA). Therefore, by calculating the score difference between each DP school and Australian schools with the same ICSEA profile, it is possible to compare the academic results of DP schools to the outcomes of socioeconomically equivalent Australian schools. Of course, as NAPLAN tests are given to students in Year 9, these analyses do not address the potential specific benefit or quality of the DP program in itself. The quality of the DP opportunity may not be on the same plane as the quality of the

opportunities for high academic performance provided to students in these schools up until Year 9.

Using data from the 54 schools for which NAPLAN scores were available, I calculated the mean score difference between DP schools and similar non-DP schools. Across the board of NAPLAN competencies, it appears that, academically speaking, DP schools did not differ much from Australian schools enrolling students with similar cultural and economic profiles in 2014. The mean score difference between DP schools and socioeconomically comparable Australian schools was lower than 10 points for each NAPLAN skill, ranging from a low 4.2 points in grammar and writing to a high 9.6 points in numeracy. In terms of academic performance in Year 9, it thus seems that there was no distinctive feature that DP schools possessed compared to schools with similar socioeconomic profiles (at least based on their NAPLAN scores). In other words, the superiority of Year 9 academic results in DP schools was not exceptional once it was compared to socioeconomically similar non-DP schools.

Despite the limited breadth of these differences, however, one detail is worth mentioning: the relation between mean score for DP schools and mean score for comparable Australian schools was consistently negative. In other words, DP schools tended to perform *below* the performance of socioeconomically similar Australian schools, and this inferiority was valid for all five NAPLAN competencies. The following table summarises the relative performance of DP schools when compared to socioeconomically similar schools in Australia:

	Reading	Spelling	Grammar	Writing	Numeracy
Mean NAPLAN Year 9 scores of DP schools	622.9	613.2	620.9	594.7	632.1
Mean NAPLAN Year 9 scores of Australian schools with similar ICSEAs	627.3	619.3	625.1	598.9	641.7
Mean difference between DP schools' NAPLAN scores and socioeconomically comparable schools' NAPLAN scores	-4.4	-6.1	-4.2	-4.2	-9.6

Table 15: Comparison of mean NAPLAN Year 9 scores on five tests for DP schools and Australian schools serving students from statistically similar socioeconomic backgrounds in 2014

DP schools consistently underperformed in Year 9 compared to what could be expected from them based on the students they had enrolled, with the largest extent of underperformance taking place in numeracy skills. There is no more superiority of academic results of students in DP schools when the latter are compared to socioeconomically comparable schools. In summary, the DP tends to be implemented in schools that performed no better than the socioeconomically similar schools they competed with in 2014.

Given that (1) DP schools obtained high academic results in 2014 NAPLAN tests, and (2) DP schools did not perform better—at least in Year 9—than Australian schools with students from comparable social origins, it is possible to hypothesise that the high-performance of DP students was partly determined by their economic and cultural background. This would suggest that the quality of the DP opportunity is, at least to a certain extent, determined by its contexts of implementation. At the same time, the comparable academic superiority of DP students compared to non-DP students in DP schools alludes to the presence of school-level mechanisms that make the DP cohort academically superior to the state curriculum cohort. Amongst these mechanisms, the results I have presented in chapter five suggest that the quality of teaching and learning may be superior in the DP program. But there may be other mechanisms making the DP into a superior educational opportunity. Beyond the premium allocation of resources and the pooling of high-achieving students into an informal elite track, students' responses also point towards the comparative curriculum structures of the DP and its grading system as explanations for the superiority of the DP opportunity. I discuss these two explanatory principles in chapters seven and eight.

The OECD (2014b, p. 406) noted in one of its PISA reports that, on average across OECD countries, private school students perform better than public school students, but that their superiority disappears after accounting for their respective socioeconomic backgrounds. In a similar vein, DP schools performed better (on average) in NAPLAN than Australian schools in 2014 in Australia, but their superiority vanished after accounting for their socioeconomic profile. If one relies on NAPLAN values, DP schools had no special feature that made them superior to other schools, beyond the students they enrolled. In Australia, DP schools were typically

socioeconomically advantaged institutions with achievements in line with the populations they served.

It is precisely in the *relative averageness* of DP schools' academic performance (valid only in a comparison with economically and culturally similar schools) that one can find possible reasons for some schools to implement the DP. Indeed, if the Year 9 cohort of students in DP schools performs no better than what could be expected from it based on the backgrounds of its students, implementing an alternative curriculum in Year 11 and Year 12 (sometimes supplemented by a preparatory track in Year 10) could be one of the solutions found by schools to make a point of difference with their competitors in a market-based education system. This could also explain the hierarchical relation that is often established between the DP and regular curriculum in Australian schools. Indeed, by positioning the DP as a superior track (Maire, 2015a), DP schools are able to create an enclosed educational site within their school, which can function as a showcase of academic achievement. By making the DP alternative superior and sometimes elitist, schools are able to use the DP as a flagship for presenting a constructed superiority. Thereafter, they can attempt to attract new high-achieving and competition-driven students that will reflect positively on the image of the school.

The tremendously high pass rate of DP students in Australia seems to confirm that the program may have been used as an elite track in most DP schools in the country. For the November 2015 examination session (the one taken by the respondents in the survey used in this thesis), the pass rate for candidates in Australian schools attained a towering 92 percent (Channel NewsAsia, 2016). Over 90 percent of the 2015 Year 12 DP cohort in Australia obtained an ATAR of 68 or above for 2016 university entrance⁶⁸. In other words, nine out of 10 DP students were in the top 32 percent of the performance ranking of students at the end of Year 12 (based on the performance of all students from their Year 7 cohort). Students with average or superior academic records were likely to be overrepresented in the DP student population. This interpretation is consistent with the fact that the mean DP score of candidates from Australian schools in 2015 amounted to an ATAR superior to 92, placing the average DP student in the top eight percent of Year 12 performance (based the cohort of students who had

⁶⁸ To obtain this value, I converted the pass DP score of 24 into its ATAR equivalents of 68.10 in NSW, VIC, QLD, and WA, and 71.40 in SA, NT, and TAS (Association of Australasian International Baccalaureate Schools, 2015b).

commenced Year 7 at the same time as she had). As of 2015, DP students were predominantly high-achieving students, even compared to the average student population in their school.

The comparatively high pass rate of DP candidates from Australia and the average ATAR of DP students demonstrate that the program has been *made into* an academically elitist program. This alternative curriculum could easily be taken by an academically broader spectrum of the student population. It is the context—especially the structures of the education system—that seems to significantly determine the quality of the DP opportunity and its contribution to the reproduction of social inequality. What the very high pass rate of DP candidates from Australia attests to is that Australian DP schools tend to filter the students enrolling in the DP on academic grounds—intentionally or not, and at the program level or at the school level—and thus turn, without deliberate planning (that is, by the combined result of their individual practices), the DP into an elite academic track.

The elitist culture associated with the DP in Australia *is* a local specificity. Indeed, while 37 percent of all DP perfect scores (45/45) at the November 2015 examination session came from Australian schools, only 18 percent of the candidates were from Australian schools (Channel NewsAsia, 2016). Only one country proved more academically elitist than Australia. Singapore seized 59 percent of all perfect scores at that session with only 14 percent of the total number of candidates (Channel NewsAsia, 2016). As a matter of fact, Australia and Singapore schools appropriated over 96 percent of perfect scores at that session, with less than a third (32 percent) of the candidates. This overwhelming domination of just two countries shows the extensiveness of *elite competitive educational cultures* in Australia and Singapore, as well as the inequalities in objective chances of DP success across countries. According to these results, the DP is not *intrinsically* socioeconomically or academically elitist: it is the national and local academic cultures of Singapore and Australia that make it an elite curriculum. Based on the results presented in this chapter, it is a combination of the specific contexts in which the DP is implemented—namely, comparatively highly-resourced schools enrolling mainly students from advantaged economic and cultural backgrounds—and the selection culture in play that have made DP students better academic performers than non-DP students in Australia.

IV. Conclusion

The present chapter has provided insightful elements on the economic and cultural selectivity of the DP in Australia. Students in DP schools—and this holds true for non-DP students as much as DP students—tend to come from privileged backgrounds and benefit from a large pool of inherited economic and cultural resources. But DP schools' enrollees—and DP students in particular—are not only advantaged by their background. I also demonstrated that, the more advantaged they were, the more educational resources they enjoyed for nurturing their academic skills. Both human and economic resources were distributed unequally across DP schools, with the schools most privileged by their student backgrounds also aided by additional teachers and superior levels of income.

This chapter also concludes the description of the position of the DP in the school-mediated reproduction of social inequality in Australia. The results obtained in chapters four, five, and six suggest that, at the most general level, the DP tends to contribute to the school-mediated reproduction of social inequality in Australia. It constitutes a profitable (in terms of academic results), privileged (in terms of resources), and advantaged (in terms of students' social origin) educational site. Acknowledging the importance of school-level analyses in understanding the distribution of academic results in Australia (Perry & McConney, 2010, p. 76; Thomson et al., 2013, p. 269), I have insisted on the comparison of DP schools to non-DP schools. The DP has been inserted in the structures of the Australian education system in such a way that it has become superior to the state alternative. The DP opportunity is now significantly elitist on academic, cultural, and economic grounds in Australia.

DP students have generally come from families likely to be endowed with superior amounts of both economic resources and cultural capital. Based on its social topography, it appears that the DP has been used by families as a comparatively advantageous alternative to the state curriculum, as part of their conatus towards the intergenerational reproduction (or betterment) of their social position. Accordingly, the DP has contributed to the reproduction of social inequality in the relation between DP schools and non-DP schools, but also in the relation between DP students and non-DP students. At the same time, the DP has been ensnared in the mechanisms of

reproduction of social inequality, as the relation between student backgrounds and student outcomes between DP schools demonstrates.

The level of education and occupational situation of students' parents are known to be crucial for understanding their offspring's educational performance (OECD, 2014a, pp. 1-2; 2014c, pp. 86-87), and I have demonstrated that this sociological fact is evident in the case of the comparative standpoint of the DP in Australia. The positive image that most Australian teachers, university staff, parents, and students have of the *program* generally misses the most important fact for comprehending the high quality of the DP opportunity. It is only in very specific school contexts, made of superior levels of resourcing and academically selected students, and in institutions enrolling students coming predominantly from privileged social backgrounds, who also embody high-class educational aspirations, that the DP becomes what it appears to be in present-day Australia. Asking if the DP is a 'good' program is not asking the right question, since the DP has no reality outside of the contexts in which it is implemented. What is often seen to be the result of features intrinsic to the DP program actually is more determined by the conditions in which this program is brought into being.

In saying that, it must also be noted that any given educational program possesses some structural features that define the type of educational opportunity that the program can become. The more prescriptive these features are, the more likely they are to limit the range of educational opportunities that the program can develop as, beyond the contexts of its implementation. Amongst these structures, the design of the curriculum and the mechanisms determining the value of the credential issued to students completing the program are essential. Accordingly, I propose a comparative analysis of the DP curriculum in the following chapter, and I discuss the exchange value of the DP credential in chapter eight.

Chapter Seven

The Social Selectivity of the DP Curriculum

In this chapter, I analyse the cognitive and cultural dispositions that are valued in the DP curriculum, in order to make sense of its social selectivity in Australia. I first point out that certain cognitive and cultural dispositions, especially the ability to engage in forms of theoretical reasoning in the context of specific educational activities, are socially discriminating. Such dispositions are often necessary for being academically successful, yet they stand closer to the language and cultural practices of some social groups than others. After outlining the cultural demands of the DP curriculum structure, I argue that the cognitive and linguistic practices valued in the DP require a skilled manipulation of academic forms of abstraction. Science and mathematics subjects, for instance, are conceived as systems of symbols to be manipulated. Finally, I use various curricular documents and existing research to show that the cognitive demands of DP subjects are more scholastic than in the other curricula available to Australian students, making the DP curriculum more socially selective on cultural and cognitive grounds than its curricular alternatives.

I. The curricular determinants of the social distribution of educational chances

In chapters four, five, and six, I methodically demonstrate that the introduction of the DP alternative in Australia has contributed to the education-based reproduction of social inequality. I argue that the superior outcomes of DP students—and thus their further educational opportunities—can be partly explained by their schools' and their own economic and cultural profiles, as well as the learning conditions and resources available to them. In other words, I argue that the *contexts* in which the DP education takes place (at the school and program levels), as well as the *background* of the students involved, are crucial elements for understanding the DP's contribution to the

reproduction of social inequality. However, I have not addressed the specific role played by the DP *curriculum* up to this point. I have taken the content studied in different curricular alternatives for granted in my study of the DP opportunity. Yet, as Richard Teese (2007a, p. 42) reminds us, “inequalities in initial post-school destinations are the product of differential social access to two hierarchies of educational opportunity — the curriculum and the school system itself”.

The structures of the knowledge system (i.e. the curriculum) and the structures of the school system both underpin students’ educational chances (including their opportunities for obtaining first-class academic results). Teese also rightly notes that both systems—the system of educational institutions and the system of educational knowledge—form a *hierarchical structure*. Certain subjects are superior to others in the hierarchy of knowledge, as much as certain schools are academically superior to others in the hierarchy of academic achievement. The hierarchy of schools delivering the curriculum corresponds to a hierarchy of “school subjects and ‘streams’ or ‘tracks’ [that] express cognitive demands on students at successively higher levels” (Teese, 2007a, p. 43). In an investigation of the position of the DP opportunity in the education-based system of reproduction of social inequality, it is thus crucial to question the social topography of the DP curriculum as much as the social topography of the schools, tracks, and classrooms in which it is implemented. As will become evident in this chapter, regimes of curricular alternatives have important implications for this double structure of the education system.

Throughout this work, I have insisted on presenting the DP as a *credential*, based on the idea that it is the exchange value of the DP that determines its role in the reproduction of social inequality. At the same time, the DP credential is not a simple certificate of academic value. The exchange value of a credential generally draws on students’ demonstration of the acquisition of knowledge components, assessed in formal examination settings. As with any curriculum, students’ academic performance in the DP depends on their capacity to demonstrate that they meet the cultural and cognitive demands built into the various DP subjects. Generally speaking, a curriculum subject can be defined as a formal structure expressing the “generic cognitive demands in codified bodies of specialised knowledge, the mastery of which is an organised, group way of exposing individuals to higher-order demands and inducting them, at least theoretically, into an intellectual culture” (Teese, 2007a, p. 43).

1. The cultural and cognitive demands of subjects and curricula

In several of his publications, Richard Teese offers a comprehensive and original contribution to the sociological understanding of curricula. In his own words, curricula are structures of codified knowledge containing specific “cognitive and cultural demands” (Teese, 2000, p. 3; Teese & Polesel, 2003, p. 13). Despite the diversity of learning outcomes expected in different subjects of secondary school curricula, there are generic cultural and cognitive demands discernible in most academic subjects.

The cultural demands of curricula generally reside in the shaping of subject content into specific and highly codified forms of *language practice*, far remote from most students’ daily use of language. Especially in the subjects sitting at the top of the academic hierarchy, “academic language is a dead language” (Bourdieu, Passeron, & de Saint-Martin, 1994 [1965], p. 8), practised nowhere outside of the academic world. The cultural origins of the different forms of academic language reside in the linguistic practices elaborated in universities, especially in the philosophical and scientific traditions, where the “language of ideas” dominates (Bourdieu et al., 1994 [1965], p. 8). The language skills expected in academic subjects are perhaps the most evident type of cultural demand that discriminates between students (Teese, 2007a, p. 47). Given that “language is the most active and elusive part of the cultural heritage which each individual owes to his background” (Bourdieu et al., 1994 [1965], p. 8), the linguistic demands of academic subjects generally are socially selective on cultural grounds. But the academic language necessary for being successful in school curricula not only entails specific cultural demands. It also demands specific cognitive dispositions.

The cognitive demands in the most academic subjects often require students “to identify relationships, detect characteristic forms of problems, utilise concepts learnt in different contexts, hypothesize, mobilise evidence, or argue logically” (Teese, 2007a, p. 45). The cognitive demands of academic subjects generally form a hierarchy, where the most theoretical modes of educational knowledge dominate less abstract ones. In mathematics, for instance, the hierarchy of content is designed as an “induction into progressively more abstract domains of reasoning” (Teese & Polesel, 2003, p. 108). In fact, the increasing degree of abstraction that accompanies the student’s progression in

school mathematics is also evident in other subjects, such as the sciences and foreign languages. But the theory-dominated hierarchy of knowledge *within* given subjects is not the only form of domination of theoretical knowledge in the curriculum. It is coupled with a theory-dominated hierarchy *among* curriculum subjects.

As Monique de Saint-Martin (1971, pp. 112-116, my translation) noted in the case of France, “the prestige granted to different science subjects remains related to the degree of abstraction of the knowledge they transmit”. Subjects with a greater theoretical emphasis and representing highly codified areas of knowledge tend to be the highest ones in the hierarchy (Teese & Polesel, 2003, p. 45). Since the second half of the twentieth century, mathematics and the sciences have come to occupy upper positions in the secondary school curriculum hierarchy in many countries. In these subjects, the logical and symbolic mastery of abstract operations plays a central role in overall proficiency. In most secondary school curricula, the more one goes up the academic hierarchy, the more one finds subjects, such as science and mathematics, that are “dominated by theory” (Teese, 2007a, p. 45).

In fact, the sovereignty of scholastic abstraction is not restricted to science subjects. The cognitive requirements of most high school subjects, such as English and foreign languages, often revolve around the core idea of *conceptualisation* (analysis, synthesis, and abstraction), and its varied manifestations “span the different disciplines” (Teese, 2000, p. 4). At the turn of the century in Australian senior secondary education, for instance, the subjects standing at the top of the academic hierarchy—measured using the average level of academic performance of students choosing the different subjects—were Classics, European histories, Ancient and Modern Languages (other than migrant community languages such as Vietnamese or Turkish), Mathematics, and the Physical Sciences, while the least academic subjects, relegated to the lower rungs of the hierarchy, were Technology, Business, Terminal Mathematics, Media Studies, and Dance (Teese, 2007a, pp. 43-44). And while the hierarchy of subjects is often grasped intuitively by students and their parents, the social distribution of students across curriculum subjects tends to be less evident. Yet, students from different social origins are unequally distributed across the hierarchy of curriculum subjects.

2. The social determinants of academic competence

Students are unequally equipped to master the cognitive and cultural demands of academic curricula. Their social origin partly determines their readiness for these curricular demands. The capital endowments of students' parents can explain students' educational chances of mastering the demands of the curriculum, for they contribute to shaping the intergenerational transmission of cognitive and cultural dispositions. John Ermisch and his colleagues conducted a large-scale study of the intergenerational transmission of advantage, covering 10 countries and using various measures of parents' economic and cultural capital. They concluded their analysis by stating: "in no country do we find that high- and low-SES children start out equally prepared for schooling [in] terms of cognitive abilities and social behavior" (Ermisch et al., 2012b, p. 465).

The cultural dispositions, skills, and knowledge that students inherit from their parents, and that function as cultural capital in tests of cognitive performance, explain the differences in cognitive performance between students before they enter their first year of schooling. For cultural capital inheritance⁶⁹, fathers and mothers' academic titles are one of the most essential indicators of intergenerational advantage that determines children's educational outcomes across OECD countries (d'Addio, 2007, p. 51). In Australia, the correlation between parental education and children's performance is strong in standardised cognitive skills, even for children as young as three (Blanden, Katz, & Redmond, 2012, pp. 140-141). By age five, there are manifest inequalities in children's cognitive outcomes by social origin in Australia, even if their social background is measured using parental income levels rather than their level of education (Bradbury, Corak, Waldfogel, & Washbrook, 2012, p. 88).

The existence of inequalities in cognitive performance between children from different social origins *even before the start of primary school* has an important

⁶⁹ The term 'cultural inheritance' has been used primarily in the study of the role of cultural transmission in the evolution of human societies (Paul, 2015; Richerson & Boyd, 2005; Richerson & Christiansen, 2013). I use the concept of cultural inheritance for describing the intergenerational transmission of cultural knowledge, dispositions, and skills that can function as capital in the relevant contexts (e.g. cultural dispositions that function as resource in the education system, for instance). The concept of 'capital inheritance' is thus a terminological shorthand for the intergenerational transmission of properties that function as resources (or capital) in the relevant contexts. Of course, the inheritance of capital is not automatic, and a labour of inheritance must be performed to "produce heirs disposed to let themselves be inherited by this inheritance" (Bourdieu, 2014 [2012], p. 238). Nevertheless, there are fewer heirs unwilling to inherit than commonly thought, "precisely because the system of reproduction functions [efficaciously]" (Bourdieu, 2014 [2012], p. 238).

implication. It means that children from different social origins are unequally prepared for the cognitive and cultural demands of the curriculum taught in schools. On what grounds can we assert that the inequality in cognitive performance between students from different social origins implies their unequal preparation for the demands of the school curriculum? The reason resides in the significant alignment between the cognitive demands included in the tests used to measure children's cognitive outcomes, on one hand, and the cognitive demands embodied in academic curricula, on the other hand. For instance, a common non-verbal cognitive performance test is the Raven's Progressive Matrices (Raven, Raven, & Court, 1998). The test is intended to measure *abstract reasoning*. James Flynn (2011, p. 652) presents the cognitive demands of the Raven's test as follows: "Raven's is all about using logic to deal with sequences of abstract shapes that have no counterpart in concrete reality". Importantly, he adds that, in cognitive tests of this kind, "the reasoning rewarded is of the sort that science [...] entails" (Flynn, 2011, p. 653). Even before their enrolment in Year 1, children's social origin partly determines their cognitive performance in common cognitive tests, and the cognitive skills assessed in such tests are then significantly rewarded in the education system via the *curriculum* and *examinations*.

As the model of reproduction of social inequality elaborated in chapter one suggests, these inequalities in cognitive outcomes between children from different social origins are not only evident before schooling commences. They also persist over students' schooling career. Although countries are more or less good at mitigating the effects of inherited capital on children's life chances, education systems in no case reduce the inequalities (in the types of cognitive skills assessed in standard cognitive tests and schools) that exist between students before they started formal schooling (Ermisch et al., 2012a, pp. 6; 28). As Ermisch and his colleagues (2012b, p. 476) summarise: "the net effect of education systems is not to reduce the relationship between parental SES and child achievement". In Australia, "average differences [of cognitive performance] between children whose parents have different educational outcomes tend to remain fairly constant over time" between the ages of three and nine (Blanden et al., 2012, p. 157). More generally, school systems across the world tend to *empirically* reproduce the unequal distribution of life chances over time by perpetuating the unequal chances of high cognitive performance existing between students of different social origins.

How do school systems reward the cultural and cognitive dispositions more frequently encountered among privileged social groups? The answer lies primarily in the hierarchy of cognitive and cultural demands embedded in academic curricula. By placing scholastic forms of theoretical skills at the top of the academic hierarchy, the school system rewards the cognitive and cultural dispositions of advantaged social groups. Their linguistic capital and early-acquired cognitive dispositions predispose them to a superiority in the sort theoretical fluency recompensed in the education system (de Saint-Martin, 1971, p. 115). While other cognitive competencies, such as memorisation, are more evenly distributed across social groups, the cognitive abilities for the academic conception of abstraction and conceptualisation are more socially differentiated. Since “upper-class students are better prepared for the acquisition of abstract knowledge” than lower-class students (de Saint-Martin, 1971, pp. 115-116, my translation), the fact that curriculum hierarchies are mostly dominated by abstract systems of codified knowledge structurally rewards the cultural dispositions of students from privileged backgrounds.

For more than a year, Annette Lareau (2003, pp. 8-9) observed the daily lives of twelve working-class and middle-class US families. She found that middle-class parents gave a stronger place to *reasoning* in their interactions with their children than blue-collar or disenfranchised parents (Lareau, 2003, p. 3). Lareau (2003, p. 5) remarked that middle-class families, especially those significantly endowed with cultural capital, “deliberately [tried] to stimulate their children’s development and foster their cognitive and social skills”. Children from middle-class backgrounds developed “greater verbal agility, larger vocabularies [and] more familiarity with abstract concepts” (Lareau, 2003, p. 5). In Australia, Maggie Yu and Galina Daraganova (2015a) explored the unequal distribution of educationally-relevant cultural capital between social groups by focusing on their home environment. They found children aged two to three in disadvantaged families to be less engaged in educationally-relevant cultural activities, such as reading, than children in advantaged families, and their findings also showed that these activities improved students’ NAPLAN Year 3 reading performance (Yu & Daraganova, 2015a, pp. 68-71).

In the second half of the twentieth century, Basil Bernstein investigated the acquisition of language in children from various social backgrounds, as well as the cognitive differences that result from these language-learning practices. He found

lower-class children to be “oriented towards a relatively low order of conceptualization” (Bernstein, 1960a, p. 320) in their everyday language use and noted that lower-class children were less likely to build elaborate capacities of verbalisation than other children in such contexts. On the other hand, the dominant form of language of those whom Bernstein (1960b, p. 271) identified as the middle class facilitated the development of a “theoretical attitude” regarding the power of language in everyday situations. His empirical work suggests that, in the second half of the twentieth century, teenagers’ linguistic practices demonstrated an unequal use of formal cognitive operations depending on their social origin. Accordingly, Bernstein (1961, p. 168) concluded that children from disadvantaged and advantaged backgrounds learn “two different forms of spoken language, [and] the only thing they have in common is that the words are English”. While this theoretical model of linguistic differences between social groups may not be directly transposable to the twenty-first century, most academic curricula, by embodying cognitive and cultural demands connected to the linguistic and conceptual dispositions nurtured in advantaged families, still tend to grant superior educational opportunities to these social groups.

Richard Teese analysed the hierarchy of cognitive and cultural demands *within* the subjects of various Australian curricula at different periods of the second half of the twentieth century. In a study conducted with John Polesel, he reached the conclusion that “most subjects in the curriculum have a theoretical emphasis. They are concerned with understanding processes and patterns, and with managing abstract ideas” (Teese & Polesel, 2003, p. 166). At the same time, Teese also examined the hierarchy *between* the subjects of given curricula in Australia. In 2000 in Victoria, for instance, he found that, as one ascends the academic hierarchy of subjects (measured by the average academic level of students in each subject), one increasingly finds subjects “dominated by theory” (Teese, 2007a, p. 45). Finally, by comparing the average socioeconomic profile of students choosing different subjects to the average academic level of students in each of these subjects, Teese (2007a, p. 43) identified a strong correlation between social background and average performance across the curriculum map. Turkish and Vietnamese were the subjects enrolling the lowest-performing students (on average), but also the subjects in which the average socioeconomic background of students was lowest. On the other hand, the average academic achievement profile across 55 subjects was highest in French, Chinese, and Renaissance, and these three subjects were all in

the top five of subjects with the most socioeconomically privileged cohort of students (on average).

Teese's original contributions strongly suggest that, alongside the organisation of learning and pedagogical relations, the *curriculum* directly contributes to turning the (inherited) linguistic and cultural properties of privileged families into *educationally-relevant cultural capital*. But the exact nature of the cognitive and cultural demands embodied in the curriculum varies depending on the curriculum under consideration, and they cannot be expected to be identical for two curricular alternatives. Accordingly, I analysed the cognitive demands embedded in the DP curriculum, in order to understand its social selectivity on cognitive and cultural grounds.

II. The DP curriculum structure

All over the world, students wanting to obtain the DP credential need to meet the curriculum requirements put in place by the IB organisation. The various bodies of knowledge taught in the DP are divided into six 'subject groups' and three 'DP core' subjects. DP students are thus required to study a total of nine subjects. The core components are (1) Theory of knowledge, (2) Extended essay, and (3) Creativity, activity, service. These core subjects count towards the final DP score only in the form of possible bonus points, but their satisfactory completion is required for obtaining the credential. The six subject groups are (1) Studies in language and literature, (2) Language acquisition, (3) Individuals and societies, (4) Sciences, (5) Mathematics, and (6) The arts. The graded results for these subjects make up the student's DP score.

Students are asked to select one subject from each of the first five groups. For their last subject, they can either choose a subject from Group 6 (The arts), or a second subject from Group 1, 2, 3, or 4 (International Baccalaureate, 2016j). Accordingly, 'The arts' is the only *optional subject group* in the DP. On the other hand, Group 5 only contains different versions of one single subject: mathematics. Therefore, the study of mathematics is, in effect, the only *compulsory subject* for students wanting to obtain the DP credential. The number of subjects theoretically available (i.e. developed by the IB organisation) in the different subject groups ranges from three in Group 5

(Mathematics) to 10 in Group 3 (Individuals and societies), and even more in Group 2⁷⁰ (International Baccalaureate, 2016h). However, DP schools generally offer only a subsample of all the subjects theoretically available in each subject group.

Most subjects exist in either Standard Level (SL) or Higher Level (HL) versions. Certain subjects are offered at SL only ('Literature and performance' in Group 1, 'Language ab initio' in Group 2, 'World religions' in Group 3, 'Environmental systems and societies' and 'Sports, exercise and health science' in Group 4, and 'Mathematical Studies' in Group 5). The distinction between SL and HL is consequential: in order to earn the DP, students must select at least three (and no more than four) HL courses. In the DP, the *hierarchy of knowledge within given subjects* is thus materialised by the SL/HL distinction. The depth and breadth of learning increases from SL to HL: HL courses require a minimum of 240 hours of instruction while SL courses must be taught for at least 150 hours. However, the "educational aims, core syllabus and curriculum and assessment" are generally the same for the SL and HL versions of a given subject (International Baccalaureate, 2015f, p. 1). Therefore, it is primarily the level of cognitive and cultural requirements that is likely to vary between SL and HL versions of a course, rather than the nature of their intellectual and linguistic demands.

Precisely because the DP is an alternative curriculum in Australia, the social selectivity of its curriculum can be understood only when compared to the other alternatives available. The syllabi in DP subjects place cultural and cognitive demands on students, but the social selectivity of the DP curriculum only becomes intelligible in comparative terms. For most of the students who can access the DP, the only other option usually is the state curriculum⁷¹. A 2014 study conducted by researchers from Deakin University provides useful elements for performing this comparison. Its authors systematically compared the DP curriculum to the Australian Curriculum (AC) by analysing various subjects in the DP and the AC, including History, Mathematics, Sciences, and English (Dixon et al., 2014b). Based on their results, it is possible to propose an analysis explaining the comparative position of the DP in the senior secondary curricular landscape in Australia.

⁷⁰ In Group 2, the three categories of subjects available to students are 'Classical languages', 'Language B' (second language), and 'Language ab initio' (second language for beginners).

⁷¹ For the sake of simplicity, I will use the term 'Australian Curriculum' to refer to the various senior secondary state and territory curricula across Australia.

In a recent paper, I briefly outlined the comparative study requirements of the DP and Australian state curricula (Maire, 2015b, p. 202). In the Australian context, AC students are required to study five units each semester, for a total of 20 units over two years, while DP students must study six subjects over the same period (Dixon et al., 2014b, p. 41). Since DP students also have to study the 'DP core', the total DP study requirements are far more demanding than the AC requirements. Besides, as DP students need to select subjects from at least five different subject groups in addition to the three core subjects, the breadth of knowledge they are expected to acquire is also more extensive than in the case of the AC. It is thus probable that the numerous areas of knowledge covered in the DP contribute to its social selectivity on cultural grounds.

Another major difference between the AC and the DP is the presence of a compulsory subject in the latter: mathematics. In fact, the presence of compulsory subjects in the DP extends beyond mathematics, albeit less prescriptively in other subject groups. For instance, whereas DP students *must* elect at least one science subject (Group 4) for a minimum of 150 teaching hours, AC students can opt for no science study at all in completing their senior secondary credential (Dixon et al., 2014b, p. 53). The compulsion of mathematics and science studies in the DP in Australia grants less freedom for cultural preferences in the DP than in the AC. Students have to be at least reasonably good at mathematics and one or more science subjects if they wish to be academically successful when enrolling in the DP.

Implicitly, students willing to opt for the DP in Year 11 thus have to be confident in their capacity to meet the cultural and cognitive demands of (1) mathematics and science subjects, (2) more subjects than the number they would study were they to opt for the AC, and (3) a broader range of subjects than they could choose if they wanted to 'specialise' in certain subject groups in the AC. The greater study requirements present in the DP are likely to deter students less confident in their science abilities, but also students unsure about the breadth of their academic competence, from enrolling in the DP. Given the differential cognitive and cultural dispositions of students from different social origins, the DP study requirements are thus likely to make it more socially selective on cultural and cognitive grounds than the local AC curriculum.

III. Assessment in the DP

When students' outcomes in examinations have direct consequences for their future educational opportunities (and indirect ones for their occupational chances), their academic results become the focal point of their learning effort. As a result, the principles and policies for assessing students become a powerful lever for determining what "is worth learning" in the curriculum (Teese, 2007a, p. 46).

The IB organisation fully understands the nodal position of the DP program in students' educational careers and admits to its high-stake status (International Baccalaureate, 2013a, p. 12). The IB (2013a, p. 13) even recognises that assessment in the DP should avoid promoting a "cultural bias". However, their understanding of cultural bias ignores the cultural distinctions between students from different social origins within societies. The absence of cultural bias is here assimilated to a level of cultural diversity that represents the various national and local contexts in which the DP is taught. It does not entail a fair representation of the cultural knowledge of the different segments of the social hierarchy in the DP curriculum.

The assessment system in the DP "deliberately attempts to give significant attention to the so-called 'higher-order' cognitive skills" for assessing the worth of students' accomplishments (International Baccalaureate, 2013a, p. 18). This stance was reasserted by the organisation in 2014, when it stated that one of the major roles of assessment in the DP was "to emphasize higher-order cognitive skills (synthesis, reflection, evaluation, critical thinking)" (International Baccalaureate, 2014m, p. 2). This manifest hierarchy of cognitive skills, as well as the IB reliance on Bloom's taxonomy of educational objectives (Bloom, Engelhart, Furst, Hill, & Krathwohl, 1956)⁷², give credit to the idea that a relatively narrow set of abstract cognitive skills span the various curriculum areas of the DP.

Of course, such a 'vertical' conception of cognitive competencies—with certain cognitive skills considered as objectively superior to others—is widespread and evident in most school curricula, and I do not deny that these specific theoretical forms of reasoning can be legitimate educational objectives. Nevertheless, different curricula are more or less successful at mitigating the social selectivity induced by their hierarchy of

⁷² In Bloom and his colleagues' taxonomy of educational objectives, cognitive processes such as remembering and understanding are placed at the bottom of the hierarchy, while cognitive skills such as synthesising and evaluating are situated at the top.

cognitive and cultural demands. In any case, if students are unequally prepared for meeting these cognitive and cultural demands because of their family background, it follows that a fair education system must distribute the opportunities for meeting these demands fairly, which may imply providing superior educational resources and experiences to those less predisposed to meeting these demands.

For each subject they attempt, DP students receive a grade ranging from 1 (the lowest) to 7 (the highest). Students need to (1) obtain a grand total of at least 24 points across the six subjects (an average score of 4 in each subject), as well as (2) meet several other minimum grade conditions in the different subjects, in order to be awarded the Diploma Programme credential. Two courses of the ‘DP core’ (Theory of Knowledge and the Extended Essay) can offer a total bonus of up to 3 points to the candidate obtaining high grades. With a maximum score of 7 in each subject and a bonus ranging from 0 to 3 points, the highest possible DP score is thus 45. Across the six subject groups, students’ performances are evaluated using a combination of internal and external assessment. Generally speaking, the DP assessment relies heavily on externally marked examinations. Although the upper limit of internal assessment is set to 50 percent of the total grade for each subject, the IB (2013a, p. 58) considers that the weight of internal assessment should generally be kept under 30 percent in each subject.

The implication of this significant reliance on external assessment becomes meaningful if we consider the DP from the point of view of alternative curricula in Australia. In mathematics, for instance, Australian states and territories partly assess Year 12 subjects externally, with the weight of external assessment varying from state to state. Yet the importance of external assessment in the DP exceeds the proportion of external assessment in all states and territories: “the IB DP assessment of Mathematics achievement standards places a far greater emphasis on external assessment than what any of the current states and territories currently employ” (Dixon et al., 2014b, p. 47). Therefore, the freedom of teachers to adjust the cultural and cognitive demands of the curriculum *to the context* of its teaching (i.e. the students enrolled in the program, the school context, and the resources available) is more limited in the DP than in the local curriculum, making the former a less flexible curricular alternative at the senior secondary level in Australia.

At the November 2014 examination session worldwide, the average DP pass rate was 80 percent and the mean DP score 31 (International Baccalaureate, 2015h, p.

7). In Australia, the average DP score in 2015 was 34.6 (Channel NewsAsia, 2016). Using the corresponding ATAR conversion table for 2016 university entrance (Association of Australasian International Baccalaureate Schools, 2015b), the *average* DP candidate from an Australian school obtained an ATAR superior to 92 for New South Wales, Victoria, Queensland and Western Australia schools, and an ATAR greater than 94 for students coming from South Australian, Tasmanian, and Northern Territory schools. In other words, despite the more demanding study requirements of the DP compared to the AC, DP students tend to obtain highly competitive ranks for university applications in Australia. This fact proves that teachers and students in Australian DP schools have generally been successful at domesticating the cognitive and cultural demands of the curriculum.

How is the DP score of a student converted into an ATAR rank? Each year, a *direct conversion table* is established between DP scores and ATAR ranks. In fact, as the previous paragraph demonstrates, two conversion tables are developed, based on the state or territory of the school in which the student is enrolled. Unlike students' grades in state curriculum examinations, DP students' grades in different subjects are *not* scaled according to the performance of students in other schools. The direct conversion table is established by the Universities Admission Centre based on a test equating method (that is, built on the assumption that students with similar results at a common test should obtain similar university application ranks), using student results from New South Wales, South Australia, and Victoria.

The correspondence between DP scores and ATAR ranks has far-reaching implications for the hierarchical relations between alternative curricula. Indeed, the annual negotiation to establish the DP-ATAR conversion table is an extremely important moment for the DP in Australia, as it determines the *market value* of the credential relative to the other senior school certificates. Since there can be no objective criteria for developing such a conversion table, supposed to establish a valid equivalence between students' academic results in incommensurable (i.e. arithmetically incomparable) curricular alternatives, a number of debatable assumptions are relied on for determining this conversion rate. In the negotiation process, those who have a stake in the DP (i.e. the IB organisation, DP schools, and DP students) have an objective interest in (1) ensuring that DP scores remain unscaled (as they have been since this

conversion model exists), and (2) obtaining a conversion rate as advantageous as possible.

An advantageous DP conversion rate entails (1) a high ATAR rank for students with a DP score corresponding to a ‘pass’ (24 out of 45), (2) a steep increase in the ATAR rank associated with each DP score increment, and (3) very high (or even maximal) ATAR ranks for students obtaining very high DP scores (i.e. above 40 out of 45). If an advantageous DP-ATAR conversion rate can be secured, the DP credential becomes a *strong currency* for university entrance. The latest DP-ATAR conversion tables (for 2016 university applications) fulfil all of these conditions⁷³. Out of the two conversion tables, the conversion of DP scores for students from NSW, VIC, QLD, and WA schools was less favourable. Even if this conversion table is used, the conversion rate remains arguably advantageous. The ATAR rank for a pass DP score of 24 was 68.10, placing all those who successfully obtained the DP credential in the top 32 percent of the distribution of ranks. Since more than nine out of 10 DP students obtained a DP score of 24 or more in 2015, the vast majority of DP candidates were automatically ranked in the top third of the student distribution for 2016 university entrance.

An increment of one DP point above a pass DP score (from 24 to 25) yielded an increase in ATAR rank of 3.5 points value in the 2016 conversion table, and all students with a DP score of 40 or above receive an ATAR rank superior to 98 (i.e. in the top two percent of the distribution). In fact, the average DP score of candidates from Australian schools in 2015 converted to an ATAR rank superior to 92 (using the least advantageous conversion table) for 2016 university entrance. As mentioned in chapter four, 92 was sufficient for applying to the Bachelor of Dental Surgery at the University of Adelaide in 2016 (University of Adelaide, 2016a).

Within the DP curriculum, the different subject groups unequally grant high marks to DP students. IB data from the November 2014 examination session worldwide indicate that Sciences and Mathematics subjects were the most academically discriminating: the average score of DP students in any subject group was lowest in Sciences (4.7) and Mathematics (4.5), while it was highest in Language acquisition (5.7), The arts (5.2), and Studies in language and literature (5.1) (International

⁷³ The double conversion table between DP score and ATAR rank for 2016 university entrance can be found in appendix.

Baccalaureate, 2015h, pp. 16-18). Of course, given that studying a subject from each subject group (except for Group 6) is compulsory in the DP, the average mark in each subject group cannot be used as an indicator of the hierarchy of knowledge in the DP curriculum, and I do not endeavour to provide an analysis of the hierarchy between subjects in the DP. The mean score of students across subject groups simply reveals that Mathematics and Sciences subjects were the most academically discriminating areas of the DP curriculum in 2014. Accordingly, they were the curriculum areas where it was most important for students to perform above average if they wished to obtain high academic results.

Interestingly, the design of science and mathematics subjects also makes perfect scores a realistic expectation for high-achieving students in these subjects (Vickers, 2013, p. 242). For DP students and schools aspiring to high academic results, it is a sensible strategy to invest considerably in mastering the demands of the DP curriculum in Group 4 and Group 5. Accordingly, I will now examine the cognitive and cultural demands present in DP Mathematics and Sciences subjects.

IV. Mathematics subjects in the DP

Two of the most essential features determining the social selectivity of a curriculum subject are (1) the selection and sequencing of subject content, and (2) the design and pace of assessment (Teese, 2007a, p. 46). Accordingly I investigated the selection and hierarchy of content in mathematics in the DP, as well as the assessment structures and their implications in terms of cognitive demands placed on students in the subject.

In Group 5, students can theoretically choose between four different subjects, including two Standard and two Higher Level possibilities. The four subjects are organised in hierarchical order of ‘difficulty’: Mathematical Studies (SL) is the easiest subject, followed by Mathematics SL, Mathematics HL, and Further Mathematics (HL) is the most difficult one (International Baccalaureate, 2016h). In practice, and as of 2016, the choice of subjects was limited to three in most Australian schools. I collected information on the DP subjects available in Australian DP schools from these schools’

websites as well as from the IB website⁷⁴. In 2016, offering Mathematics SL and HL was the norm in virtually all schools, and 83 percent of DP schools also offered Mathematical Studies, but only one school taught Further Mathematics. In the Australian context, most DP students had access to a basic mathematics course, a standard one, and an advanced one.

Following on these results, I examined the curriculum documents of the three DP Mathematics subjects most commonly taught in Australian DP schools. The analysis revealed that these subjects form a hierarchical structure of increasingly abstract demands placed on students. At the top of the hierarchy, in Mathematics HL, the syllabus is completely driven by conceptual learning⁷⁵. Mathematical concepts are at the core of the subject, and students are expected to “develop insight into *mathematical form and structure*, and should be intellectually equipped to appreciate the links between concepts in different topic areas” (International Baccalaureate, 2014f, p. 1). The cognitive demands in Mathematics HL are purposely designed to mirror the way in which mathematics is constructed as an academic discipline in universities: “Mathematics HL is an ideal course for students expecting to include *mathematics as a major component of their university studies*, either as a subject in its own right or within courses such as physics, engineering or technology” (International Baccalaureate, 2012b, p. 5, my emphasis). Therefore, the highly abstract structure of Mathematics HL is comprehensible.

The list of seven topics taught in Mathematics HL contains traditional themes, such as ‘algebra’ and ‘functions and equations’, but also ‘calculus’, ‘vectors’, and ‘circular functions and trigonometry’ (International Baccalaureate, 2014f, p. 1). Mathematics HL contains more topics than Mathematics SL, and the different topics are studied in greater depth than in the standard course. The additional content in Mathematics HL compared to SL is theoretical, focusing on ‘statistics and probability’

⁷⁴ All the figures referring to the Year 12 subject offerings of DP schools in Australia were collected on 3 March 2016. Whenever possible, I gathered data originating from the school website. Nine DP schools did not provide the list of DP subjects taught in the school on their website. After verifying that the list of subjects taught in these nine DP schools was up-to-date on the IB website, I used this secondary source of information to complement the initial dataset. The final dataset includes the list of subjects taught in all Australian DP schools in 2016 (acknowledging that, for three schools, the most recent data were last updated in 2014, and three other schools had last updated their DP subject offerings in 2015).

⁷⁵ Although Further Mathematics is rarely taught in Australian DP schools, the subject stands at the very apex of the theoretical hierarchy and engages students in even more abstract and remote learning than in Mathematics HL.

as well as ‘calculus’ (International Baccalaureate, 2014f, p. 1). Not only do students choosing Mathematics HL study the four topics in common with Mathematics SL in greater depth; the two additional topics that Mathematics HL students encounter are also inescapably theoretical. In statistics and probability, students are introduced to Bayesian statistics, conditional probability, and probability density functions; they also need to manipulate the concepts of normal, binomial, and Poisson distributions (International Baccalaureate, 2012b, pp. 30-32). In calculus, students are expected to gain an understanding of differential and integral calculus, with the use of various categories of derivatives as well as integrals (International Baccalaureate, 2012b, pp. 33-36).

In Mathematics HL, the assessment is composed of three externally marked papers (representing 80 percent of the overall grade) plus an internally-assessed mathematical exploration (International Baccalaureate, 2014f, p. 2). The sample examination questions provided by the IB for the external assessment confirm the conceptual and highly abstract nature of the abilities that students are expected to demonstrate: the two examples ask students to (1) find solutions to a system of equations and (2) use vector algebra relations (International Baccalaureate, 2014f, p. 2). The sample questions reinforce the idea of a theoretical approach to mathematics, conceived as a set of logical relations between symbols.

Below Mathematics HL in the Group 5 hierarchy stands Mathematics SL. At that level, a more balanced mixture of theoretical and technical learning is encountered. “The IB DP mathematics standard level (SL) course focuses on introducing important *mathematical concepts* through the development of *mathematical techniques*”, and “students should, wherever possible, apply the mathematical knowledge they have acquired to solve *realistic problems* set in an appropriate context” (International Baccalaureate, 2014e, p. 1, my emphasis). At least in the generic description of the subject given in the subject brief, there are some concrete and practical goals, so that a cohabitation of theoretical and more contextualised endeavours is discernible in Mathematics SL. However, despite this movement towards practical relevance, the forms of knowledge that matter in the subject remain dominated by an academic conception of mathematics.

Similarly to Mathematics HL, Mathematics SL is framed as a propaedeutic for university courses drawing on conceptual mathematical knowledge: “the majority of

these students will expect to need a *sound mathematical background* as they prepare for future studies in subjects such as chemistry, economics, psychology and business administration” (International Baccalaureate, 2012c, p. 5, my emphasis). Not only do the six topics covered in the syllabus contain ‘vectors’, ‘calculus’, and ‘circular functions and trigonometry’ (alongside ‘algebra’ and ‘functions and equations’); they are also designed for teaching students the manipulation of symbols and their relations. In algebra, students need to adopt the sigma notation and manipulate exponents and logarithms; in functions and equations, they are expected to solve equations analytically (using the quadratic formula, for instance); in circular functions and trigonometry, a large place is made for the study of trigonometric functions (sine, cosine, tangent) and their relation and manipulation; in vectors, students need to be able to find the vector equation of a line; in statistics and probability, students grapple with linear correlations and regression equations; and in calculus, students mostly learn about derivatives of functions and practice integration and anti-differentiation (International Baccalaureate, 2012c, pp. 17-36).

Despite the discursive commitment to practical relevance in Mathematics SL, in the actual syllabus, students are predominantly immersed in the world of *functions and equations* as a system of logically related symbols. The learning objectives are scarcely concrete and practical, and the core mathematical principles appear little altered from the HL version of the subject. The only noteworthy differences seem to be found in the time students spend learning about the various topics and the addition of supplementary knowledge in HL. Even in Mathematics SL, therefore, not a single topic escapes the formalist conception of mathematics. This argument is confirmed by the sample examination questions provided in the subject brief. These questions ask students to calculate the mean, variance, and standard deviation of statistical distributions *in abstracto*, and to find derivatives to a given mathematical function (International Baccalaureate, 2014e, p. 2). Although the weight of mathematics ‘for its own sake’ is not as marked as in Mathematics HL, Mathematics SL remains framed as a theoretical course.

It is only at the bottom of the hierarchy of Group 5 subjects that one can identify a clear effort to shift from a predominantly formal to a practical conception of mathematics. Importantly, Mathematical Studies was not designed as a preparatory mathematics course for university: “the students most likely to select this course are

those whose main interests lie outside the field of mathematics, and for many students this course will be their *final experience* of being taught formal mathematics” (International Baccalaureate, 2012a, p. 6, my emphasis). Hence the practical skills that the course wants to equip its students with. In Mathematical Studies, DP students are taught seven topics over the two-year course: (1) numbers and algebra, (2) descriptive statistics, (3) logic, sets and probability, (4) statistical application, (5) geometry and trigonometry, (6) mathematical models, and (7) introduction to differential calculus (International Baccalaureate, 2014e, p. 1).

Amongst the seven topics covered in the syllabus, some are discernibly shaped by a practical and context-relevant conception of mathematics. In number and algebra, for instance, students use approximations, estimations, and develop their skills in currency conversions and financial applications of geometric series (by using annual depreciation or compound interest instruments, for instance); in geometry and trigonometry, students are expected to construct labelled diagrams from verbal statements, and become acquainted with the geometry of three-dimensional solids (International Baccalaureate, 2012a, pp. 16-29). Yet it would be mistaken to conclude that Mathematical Studies (SL) ignores the academic foundations of the subject: in terms of cognitive demands, it aligns significantly with the expectations present in Mathematics SL and HL. Indeed, several topics remain indubitably dominated by abstract formulations, especially in ‘mathematical models’ and ‘introduction to differential calculus’ (International Baccalaureate, 2012a, pp. 30-34). A commendable effort is made to develop the practical relevance of mathematics, but even for this group of students, the role played by scholastic mathematics in the subject remains manifest.

The sample examination questions provided in the subject brief show that the discursive concern for practical relevance is not simply a ‘pious intention’ in Mathematical Studies. Mathematical Studies is a genuinely more practical mathematics subject than Mathematics SL and HL, and this practical dimension constitutes a concrete principle embodied in the design of the final examination. Rather than focusing on the abstract language of mathematics for its own sake, the sample examination questions for Mathematical Studies use real-world issues to make mathematics relevant to students. For example, these questions ask students to use a mathematical function to predict the temperature of a liquid heating for a given period of time, or to calculate the three-year return on a financial investment based on a given

interest rate (International Baccalaureate, 2014e, p. 2). Given that examinations are important in determining the actual cognitive demands placed on students, this practical emphasis can be seen as a distinguishing feature of Mathematical Studies.

This brief overview of the content and assessment in the three most common Group 5 subjects in Australian DP schools reveals a hierarchy of abstraction ranging from Mathematical Studies (SL) to Mathematics HL. Given that subjects with a highly formalised set of cognitive demands tend to be more socially selective than those less focused on a purely academic conception of mathematics, the existence of a variety of subjects with a more or less theoretical emphasis in DP Mathematics could be seen as a socially inclusive principle. However, there are two structural requirements that make this subject diversity less socially inclusive than it may have been. First, DP students are required to study at least three HL subjects amongst the six subjects they take. Therefore, if students can indeed choose Mathematics SL or Mathematical Studies (SL) if they are not so versed in the abstract language of mathematical symbolism, it is also true that (1) almost one school out of five in Australia does *not* offer Mathematical Studies as a Mathematics subject, and (2) choosing a SL subject in Group 5 reduces students' margin of freedom for selecting SL subjects in other subject groups. Second, the hierarchy of Mathematics subjects based on their increasingly formal content aligns with the hierarchy of academic results students obtain in these subjects. Deeper conceptual mathematics is not only rewarded by counting as a HL subject; it is also rewarded concretely by statistically higher grades than in SL subjects. The mean subject scores at the November 2014 session worldwide were 4.4 for Mathematical Studies (SL), 4.5 for Mathematics SL and 4.9 for Mathematics HL (International Baccalaureate, 2015h, p. 17). In addition to progressing towards meeting the requirement of selecting at least three HL subjects across the six curriculum areas, the students choosing Mathematics HL (i.e. those comfortable with a formalised approach to mathematics) also obtained higher mathematics marks. To that extent, students most at ease with scholastic cognitive and cultural dispositions were doubly rewarded in DP Mathematics.

The hierarchy of average scores between the different mathematics subjects in the DP was also evident at the November 2012 and November 2013 examination sessions (International Baccalaureate, 2013g, p. 17; 2014s, p. 17). Accordingly, there seems to be a systematic scoring inequality within Group 5 between SL and HL

subjects. For that reason, while the very existence of SL subjects in Group 5 could have acted as a remedy against the social selectivity of DP Mathematics, the inferior academic profitability of Mathematics SL courses (on average) limits the extent to which the availability of SL courses in Group 3 makes the DP provide for a fair opportunity of academic success to students with various cultural and cognitive dispositions. In November 2014, 23 percent of students opting for Mathematical Studies scored a 6 or a 7; 30 percent of students choosing Mathematics SL received one of these two marks, and as much as a 39 percent of students selecting Mathematics HL obtained a 6 or 7 (International Baccalaureate, 2015h, p. 17). Students capable of meeting the cognitive and cultural demands of an abstract mathematics course were more academically rewarded in the DP than students choosing a more applied mathematics course. Since the inherited cultural capital of privileged students (especially in university-educated families) tends to facilitate their mastery of the abstract mathematical skills necessary for succeeding in Mathematics HL, the unequal distribution of high scores between SL and HL Mathematics constitutes an additional mechanism for the unequal distribution of educational chances by social origin in the DP.

At the same time, even the SL versions of Mathematics in the DP tend to embody a theoretical gaze on mathematical knowledge. The domination of conceptualisation and formalism across the board in Mathematics subjects becomes evident in the analysis of assessment practices in Group 5. In DP Mathematics, the assessment principles used to mark the various subjects are generic, and the DP uses *identical* grade descriptors for all the subjects in Group 5. Accordingly, in Mathematical Studies, “the removal of more complex material and the substitution of topics of apparently greater real-world relevance does not change the intellectual stance that the student must adopt in order to succeed” (Teese & Polesel, 2003, p. 114). Beyond their apparent differences, “an underlying consistency in the cognitive and cultural demands made on students” (Teese & Polesel, 2003, p. 104) is evident in all DP mathematics subjects.

The comparison of the grade descriptors for a low and a high grade in Mathematics give us access to the cognitive hierarchy built into Group 5 subjects. I have compared the description associated with a grade 3 (below average) to the description associated with a grade 7 (highest one) in Mathematics. A student obtaining

a grade 3 “demonstrates partial knowledge of the syllabus and *limited understanding of mathematical principles* in performing some *routine tasks*; attempts to carry out mathematical processes in *straightforward contexts* [...]”. On the other hand, a student obtaining a grade 7 “demonstrates a thorough knowledge and understanding of the syllabus; *successfully applies mathematical principles at a sophisticated level in a wide variety of contexts*; successfully uses problem-solving techniques in challenging situations; *recognizes patterns and structures*, makes generalizations and justifies conclusions [...]” (International Baccalaureate, 2014d, p. 14, my emphasis). The increase in formal cognitive demands requiring theoretical manipulation between grades 3 and 7 is evident: the higher the grade, the higher the demands of self-referencing symbolic manipulation placed on student learning. Because of the cross-subject use of these grade descriptors, conceptual mathematical fluency is highly rewarded even in Mathematical Studies (SL). Therefore, even if the average score in Mathematical Studies were equal (or superior) to the average score in Mathematics HL, Group 5 as a whole could still be socially discriminating on specifically cognitive grounds.

This series of findings suggests that the construction of mathematics subjects in the DP follows the same logic as the principles identified by Teese and Polesel in the Australian state curricula. In the DP, as much as in the state curricular alternatives, “mathematics is an induction into progressively more abstract domains of reasoning, operating on numerical concepts of increasing complexity and power. While, in the background, the practical applications are abundant, in the foreground are conceptual schemata that are disembodied and whose ‘materiality’ is and must be purely symbolic” (Teese & Polesel, 2003, p. 108). And for Teese and Polesel (2003, p. 114), it is precisely the primacy of abstract symbolism in school mathematics, “its emphasis on abstraction, on form, on logical relationships, on conceptual grasp and operational dexterity”, that makes mathematics socially discriminating.

Even though the cognitive demands in Mathematics make the DP socially selective on cognitive and cultural grounds, the position of the DP as a curricular alternative in Australia implies that it is only the *relative cognitive and cultural demands* of the DP curriculum—compared to the other alternatives available—that truly determines the specific social selectivity of the program. For assessing the comparative cognitive load of the DP, the findings of Mary Dixon and her colleagues,

obtained in their comparative analysis of the DP and the Australian Curriculum, are enlightening. Their results indicate that, according to DP teachers, students enrolled in the DP study mathematics in much greater “depth” than their non-DP peers (Dixon et al., 2014b, p. 5). In this context, the word ‘depth’ precisely refers to a greater theoretical and conceptual understanding. In addition, teachers who taught mathematics in the DP considered that the “standard of achievement” expected in Mathematics HL exceeds the standards expected in the higher-level mathematics subject in state certificates (Dixon et al., 2014b, p. 5), confirming the more elaborate demands embodied in DP mathematics.

This perception of DP Mathematics as more abstract and scholastic than its state alternatives explains why DP teachers see the DP as targeting more ‘high-ability’ students. They tend to consider that “the AC caters better for the lower end of academic abilities whilst the IB DP caters better for the upper end of academic abilities” (Dixon et al., 2014b, p. 46), where academic abilities are equated with students’ capacity of symbolic mastery. There is a common perception amongst DP teachers of a *vertical organisation* between DP and non-DP mathematics subjects. In their opinion, DP Mathematics subjects are more academically demanding than their AC counterparts. Logically, DP teachers also see DP Mathematics subjects as a better preparation for the cognitive demands of university studies than the state curricula (Dixon et al., 2014b, p. 5). Undoubtedly, DP teachers partly contribute, through their expectations and practices, to *making* the cognitive demands in DP Mathematics superior (on average) to the demands in AC mathematics. Still, the numerical importance of external examinations in DP Mathematics give little room for teachers to shape the cognitive demands of mathematics subjects in the DP, since the cognitive demands of senior secondary curricula are generally dictated by external examinations.

These multiple results concur in supporting the argument that DP Mathematics subjects are more theoretically demanding than the state certificate options in Australia, and it is probable that their more formal cognitive demands make them particularly socially discriminating. At a general level, it is the combination of several features of DP Mathematics that makes the entire DP curriculum more socially discriminating on cognitive grounds than the state curricula. The four major differences between DP and AC in mathematics are (1) the compulsory status of mathematics in the DP, (2) the minimum number of contact hours (150) in DP Mathematics, (3) the greater weight of

external examinations in the DP, and (4) the superior depth of mathematical content in the DP (Dixon et al., 2014b, p. 49). Across all these dimensions, the DP is *more demanding* than the AC, a situation which undoubtedly explains in part the social selectivity of access to the DP opportunity in Australia. In turn, by leading ‘cognitively fit’ students towards superior academic outcomes, the DP completes the cycle of reproduction of social inequality.

Ultimately, the contribution of the theoretical structure of DP mathematics subjects to the unequal distribution of educational opportunities based on students’ social origin is not only brought about by their built-in cognitive and cultural demands. The weight of external examinations in senior secondary education leads to a particularly significant backwash effect of examinations on science and mathematics teaching. Indeed, in these groups of subjects, it is much easier for schools to master the demands of the curriculum systematically and with a high level of reliability than in less structured and codified subjects. It is thus far more frequent for schools to ‘teach to the test’ in the sciences and mathematics than among the traditional humanities (Teese, 2000, p. 200). As a result, mathematics and the sciences are more prone to the effect of resourcing inequality than other subjects, for “the capacity to reduce teaching to methodical routine and to saturate the instructional environment with resources is much greater” in these subjects (Teese, 2000, p. 200). The compulsory nature of mathematics and science subjects in the DP makes this curricular alternative especially disposed to contribute to the unequal distribution of educational chances for academic success based on students’ social origin, since students from privileged backgrounds are overrepresented in highly resourced schools.

V. Science subjects in the DP

Science subjects in secondary education often have cognitive affinities with mathematics (and the latter is even considered as a science subject in some cases). Thanks to their conceptual organisation, several sciences lend themselves to the hierarchical evaluation of students’ knowledge and skills—and thus to the act of discrimination of their performance—more easily than most other disciplines. This specific feature of the body of knowledge and methods in the traditional sciences

explains why they have come to occupy the upper rungs of the curriculum hierarchy in most Western societies. It is easier to assert that a given vertical ranking of students' performance is objective and legitimate in science and mathematics than in literature, humanities, or arts. The IB has designed seven subjects that count as 'Sciences' (Group 4) in the DP. Physics, Chemistry and Biology are the three standard subjects, supplemented by more innovative courses such as Computer science, Design technology, Environmental systems and societies (SL only), and Sports, exercise and health science (SL only) (International Baccalaureate, 2016h). In practice, however, most DP schools in Australia (70 percent) offer either three or four of these subjects.

The different Group 4 subjects do not benefit from the same exposure in DP schools in Australia: while nine out of 10 DP schools offered all three traditional science subjects in 2016, only 18 percent and eight percent of schools offered Design technology and Computer science (respectively). The other two recent subjects, Environmental systems and societies and Sports, exercise and health science, were better represented in Australia: 25 and 30 percent of schools implemented them in 2016 (respectively). Nevertheless, the landscape of DP Sciences subjects remains heavily dominated by the 'big three'. Accordingly, I will now analyse the cognitive demands placed on students in these three major subjects.

1. Biology

The subject description of Biology SL given in the subject brief alludes to a course built on a practice-based form of learning, where experiments and the use of methods and techniques are essential (International Baccalaureate, 2014h, p. 1). "By its very nature, biology lends itself to an experimental approach, and it is expected that this will be reflected throughout the course" (International Baccalaureate, 2014b, p. 13). The syllabus also pays attention to applied science and engineering forms of knowledge, rather than to pure theoretical biology (International Baccalaureate, 2014b, p. 6). In Biology SL, the six core topics (cell biology, molecular biology, genetics, ecology, evolution and biodiversity, and human physiology), as well as the four possible options for the seventh topic to be studied, appear to be reasonably amenable to an experiential and concrete form of learning. The syllabus adequately relates understanding (the more

theoretical dimension of the subject) to the applications, procedures, and skills that sustain such an understanding.

At the same time, the syllabus also emphasises the importance of mathematical and computer models, as well as “theories, laws and hypotheses” in its conception of biology (International Baccalaureate, 2014b, pp. 7-8). The respective weight of assessment components confirms the subordinate position of experiments in what genuinely ‘counts’ in Biology examinations. In Biology SL as well as in Biology HL, students’ experiments and report account for only 20 percent of the final grade (International Baccalaureate, 2014g, p. 2; 2014h, p. 2). Moreover, the internal assessment component, although based on students’ experiments, does not actually evaluate students’ experimental skills. The internal Biology assessment component requires students to *write a report* based on their experimental investigations. Accordingly, the design of Biology examinations for Year 12 students moves the subject closer to a theoretical science than to an experimental one, despite the overt attention to practical biology expressed in the syllabus. With 80 percent of the assessment being external and written, it is the symbolic mastery of language and biological knowledge that dominates the hierarchy of valuable skills and knowledge in DP Biology.

The limited weight of experiments in Biology examinations does not, however, imply that a practical approach to biology is absent from the written examination components. A focus on the type of examination questions asked in Biology SL confirms the less abstract structure of Biology SL compared to Mathematics SL. While some of the sample questions interrogate students’ understanding of forms of classification of species or the biological uses of a specific family of proteins, another question asks them to discuss the purpose of genetically modifying potatoes (International Baccalaureate, 2014g, p. 2). Accordingly, Biology SL contains a portion of practical and concrete meaning that goes beyond biology as an academic body of scientific knowledge. At the level of content, the subject is not solely theory-driven. Nevertheless, the large domination of external written examinations undermines the potential for experimental practice to genuinely count in students’ assessment and thus relegates this form of knowledge to a subaltern position in the hierarchy of biological knowledge. Perhaps giving more importance to the internal assessment of students’

skills in laboratory manipulations would make the experimental activities in DP Biology more significant for students.

In parallel to the case of Mathematics, the passage from Biology SL to Biology HL corresponds to a marked shift towards a theoretical emphasis on students' conceptualisation abilities. External assessment retains a four-to-one ratio to internal assessment, and the additional higher level topics covered become more abstract than the SL topics. They include the study of biomolecules (nucleic acids), the study of animal physiology, and the study of metabolism, cell respiration, and photosynthesis (International Baccalaureate, 2014g, p. 1).

It is noteworthy that these additional topics move progressively away from the study of life as it occurs in the experience of students towards a *chemistry-based biology*. The study of nucleic acids requires students to make sense of nucleosomes, the function of DNA polymerases and the system of enzymes responsible for the replication of DNA; these students have to engage with the concept of ATP hydrolysis to understand movement; and they are also expected to delve into metabolic pathways and enzyme reactions, the citric acid (or Krebs) cycle, and oxidation reactions in their study of photosynthesis and cell respiration (International Baccalaureate, 2014b, pp. 83-106). In Biology HL, the study of life is mostly reduced to a form of complex organic chemistry.

This chemically-grounded biology seems to confirm Richard Teese and John Polesel's (2003, p. 102) observation that "even biology—the friendliest and most familiar of the sciences—leads away from life into chemistry, surrendering the vocabulary of its practical terms to the greater power of analytical concepts". The chemical dimension of DP Biology is particularly evident in the HL portions of the syllabus. Although "the distinction between SL and HL is [mainly] one of breadth and depth", (International Baccalaureate, 2014b, p. 14), the proportional importance of conceptualisation and experiments also distinguishes Biology SL from Biology HL. Meanwhile, the fact that 80 percent of the final grade in Biology is comprised of external examinations designed as assessment papers leaves little room for according the same importance to experiments as to conceptual explanation.

As in the case of Mathematics subjects in the DP, students choosing Biology HL tend to fare better than students opting for Biology SL. While only 16 percent of worldwide DP candidates scored a 6 or 7 in Biology SL in November 2014, 35 percent

of Biology HL candidates scored a 6 or 7 (International Baccalaureate, 2015h, p. 17). In Biology HL, more than 70 percent of students worldwide scored 4 or above (International Baccalaureate, 2015h, p. 17). In short, Biology SL possibly offers DP students a less culturally and cognitively discriminating science subject than the other options available. Yet, since the academic results of students choosing Biology SL are generally inferior to the results of students choosing Biology HL (in addition to ‘consuming’ one of the three SL cards available to DP students), the availability of Biology SL in DP Group 4 does not make the DP curriculum more socially accessible in a genuinely fair way.

2. Chemistry

Chemistry is the second DP Group 4 subject of the ‘big three’ in Australia. The conceptual apparatus of academic chemistry is at the core of DP Chemistry, in a more direct and systematic fashion than in Biology HL. At a descriptive level, Chemistry is conceptualised identically in its SL and HL versions: it is presented as an experimental science defined by “chemical principles”, and students are expected to engage in both theory and practice (International Baccalaureate, 2014j, p. 1). In parallel with DP Biology, the recommended teaching approach is an experimental one (International Baccalaureate, 2014c, p. 13).

At the Standard Level, the very structure of the subject is meant to be practical: “while the scientific method may take on a wide variety of forms, it is the emphasis on a *practical approach through experimental work* that characterizes the subject” (International Baccalaureate, 2014j, p. 1, my emphasis). The knowledge students acquire in Chemistry SL is generally described in plain English: although the use of chemical notations is noticeable, it does not systematically form the backbone of learning outcomes (International Baccalaureate, 2014c, pp. 32-76). The SL curriculum contains 11 core topics (such as equilibrium, acid and bases, atomic structure, or periodicity) plus one topic to be chosen amongst four optional themes (including biochemistry or energy). Chemistry HL students have an additional 10 topics to study (including reduction-oxidation processes and chemical kinetics), although some of these topics overlap with the 11 core topics taught in the SL version (International Baccalaureate, 2014i, p. 2).

At both SL and HL, DP students are expected to (1) gain an understanding of the different topics addressed, and (2) use their skills in practice through applications. For the second objective, however, the chances of engaging in directly meaningful experiments decreases as one moves from SL to HL. What counts as “applications and skills” becomes more and more abstract: for example, an application for the ‘atomic structure’ topic is defined as solving problems using the Planck constant, or else as the “calculation of the value of the first ionization energy from spectral data which gives the wavelength or frequency of the convergence limit” (International Baccalaureate, 2014c, p. 77). It is hard to see how students not fully at ease with a formal scientific language would engage with such material and consider it an ‘application’ or ‘practical’ in any way. Evidently, the DP curriculum defines ‘practice’ rather loosely in its science courses. Chemistry HL appears to be more practical in intent than in practice.

With regard to students’ expected understanding of the different topics of the syllabus (the first of the two objectives of science education in the DP), the learning goals become significantly more abstract and complex as one shifts from SL to HL. In the HL ‘chemical bonding and structure’ topic, for instance, students are expected to understand that “covalent bonds result from the overlap of atomic orbitals. A sigma bond (σ) is formed by the direct head-on/end-to-end overlap of atomic orbitals, resulting in electron density concentrated between the nuclei of the bonding atoms” (International Baccalaureate, 2014c, p. 81). The use of chemical symbols also progressively increases to the point of becoming fundamental to the knowledge students are expected to acquire (International Baccalaureate, 2014c, p. 92). Based on the content of the syllabus, the body of knowledge in Chemistry HL is significantly more abstract and remote from everyday language than in Biology HL, even though the latter already is a distinctly theoretical subject.

In DP Chemistry, as much as in Biology, the HL/SL hierarchy is a *theoretical hierarchy*, with the most conceptual and abstract version of the subject at the top. The language of Chemistry in the DP is certainly remote from many students’ *everyday* linguistic skills: in order to succeed in Chemistry, they have to learn a new terminology and integrate the relations between symbols to form a coherent system of thought. In its cognitive architecture, the DP is thus no different from the Australian senior secondary curricula of the early 2000s, for which Teese and Polesel (2003, p. 102) noted that “the

everyday substances of Chemistry are simply a starting point on the road to molecular structure and the equations of chemical behaviour”.

Another comparison is warranted between DP Chemistry and DP Biology. In both cases, although the SL version of the subject initially appears to be more accessible to students not prepared to acquire scientific knowledge for its own sake, in the actual assessment model, experimental practice only counts as a minor component. Experiential learning is of secondary importance compared to the prominent role given to the written demonstration of knowledge in externally assessed examination papers (80 percent of the final mark). The good intentions of practical relevance written into the syllabus matter little if the assessment model does not reward them. For both SL and HL, even the personal investigation (internal component) is assessed by asking students to *write a report* about their explorations.

In Chemistry SL, the sample examination questions do allow for a degree of concreteness and practical relevance: for instance, students can be asked why vehicles using hydrogen as fuel can be considered as less pollutant (International Baccalaureate, 2014j, p. 2). At the same time, they can also be asked to calculate the number of atoms in one mole of a given organic compound (International Baccalaureate, 2014j, p. 2). In Chemistry HL, on the other hand, the examination apparatus is deeply theoretical: both questions given as examples in the subject brief use a chemical notation, and they have little obvious relevance for less ‘academic’ students (International Baccalaureate, 2014i, p. 2).

So far, the hierarchy of versions available to students (from SL to HL) in Mathematics, Biology, and Chemistry reflects the progressive ascension towards the university conception of these bodies of knowledge. As one advances from SL to HL, the practical component and direct manipulative meaning is replaced by a more and more encompassing theoretical approach, based on a system of concepts, their relations, and the rules regulating their relations. The *system of symbols* at the core of scientific languages comes to the fore, and this symbolic system is largely independent from everyday languages. The IB organisation mentions that Chemistry “is available at both standard level (SL) and higher level (HL), and therefore accommodates students who wish to study chemistry as their major subject in higher education and those who do not” (International Baccalaureate, 2014c, p. 13). The course is thus framed with reference to higher education training, presupposing that HL Chemistry students will go

on to study chemistry at university. At the same time, students are also reminded in the subject brief that chemistry is often necessary in applying for and studying in prestigious university degrees like medicine (International Baccalaureate, 2014j, p. 1). Perceptively, the IB organisation is aware of the importance of science subjects for accessing profitable and prestigious jobs, such as the health professions. Accordingly, the importance of science subjects for the distribution of university chances makes the cognitive structure and profile of science subjects even more determining in the reproduction of social inequality.

As much as in the case of DP Biology, the coexistence of Chemistry SL and HL versions, constructed with a different balance of theoretical and practical elements, partly limits the contribution of DP Sciences to the unequal distribution of academic results based on students' social origin. Yet, the previously mentioned pattern of achievement inequality between average SL and HL students appears in DP Chemistry as well: while 34 percent of Chemistry SL candidates were graded 6 or 7 in November 2014 (worldwide), as much as 50 percent of Chemistry HL students obtained these grades (International Baccalaureate, 2015h, p. 17). In Chemistry HL, more than 80 percent of DP students scored 4 or above (International Baccalaureate, 2015h, p. 17). The arithmetic benefits of being able to reasonably choose Chemistry HL rather than Chemistry SL thus reinforce the theoretical bias that advantages some segments of the social continuum above others, by rewarding students more at ease with the cognitive demands of theoretical chemistry with superior academic results. This mechanism supports the contribution of the DP curriculum to the reproduction of social inequality in Australia.

3. Physics

Concurrently to asserting that chemistry is essential to physics and biology, the IB organisation also claims that “physics is the most fundamental of the experimental sciences” (International Baccalaureate, 2014l, p. 1), subscribing to the widespread conception of physics as the ‘king of sciences’ (Morus, 2005, pp. 2-3). Consistently with the picture given of DP Biology and Chemistry, the IB organisation claims that experiments are a core component of Physics in the DP, as “it is the emphasis on a

practical approach through experimental work that characterizes the subject” (International Baccalaureate, 2014l, p. 1, my emphasis).

Despite this profession of faith for experiments and experience-based learning, the tradition of science teaching in Western school systems, the IB’s self-imposed requirements of implementing mainly external examinations, and the organisation’s explicit objective of preparing students for university, complicate the discursive praise of experimental physics. Even though observations “remain” essential to Physics in the DP (International Baccalaureate, 2014l, p. 1), it is the *models* and *theories* developed to try to make sense of these observations that take precedence (for SL and HL Physics). DP students encounter a cohabitation of theory and practice in Physics—or so at least the curriculum states—where “both theory and experiments should be undertaken by all students” (International Baccalaureate, 2014p, p. 13). To that extent, physics seems to be taught in the DP based on the model of its practice by some professional physicists. Physics as a scientific profession and as a school subject would both consist in experimenting with theoretical intent.

Elaborating on this conception of professional physics, the IB organisation discursively aligns DP Physics with its corresponding academic discipline: “the scientific processes carried out by the most eminent scientists in the past are the same ones followed by working physicists today and, crucially, are also accessible to students in schools” (International Baccalaureate, 2014p, p. 12). The IB organisation thus considers that physics as a school subject ought to emulate physical science as an occupation. Beyond the surface of the syllabus, it is thus a *mathematical physics* that the DP proposes to its students. Mathematics is even defined as “the language of physics” (International Baccalaureate, 2014p, p. 13). The syllabus specifies a list of 15 mathematical competencies that students should possess to study Physics (International Baccalaureate, 2014p, p. 22). At the SL and HL, students are immersed into eight core topics for a total of 95 hours: (1) measurements and uncertainties, (2) mechanics, (3) thermal physics, (4) waves, (5) electricity and magnetism, (6) circular motion and gravitation, (7) atomic, nuclear and particle physics, and (8) energy production (International Baccalaureate, 2014k, p. 1; 2014l, p. 1).

For the two dominant learning objectives (‘understandings’ as well as ‘applications and skills’) expected from students for each topic, conceptual and abstract formulations dominate, even for the introductory topic ‘measurements and

uncertainties'. At that stage, students deal with three sub-topics (measurements in physics, uncertainties and errors, and vectors and scalars), two of which require students to primarily use mathematical notations (International Baccalaureate, 2014p, pp. 31-33). As a matter of fact, mathematical formulas are used in every single one of the eight topics covered by SL and HL students, with increasing complexity as one moves from 'measurements and uncertainties' to 'circular motion and gravitation' or 'electricity and magnetism' (International Baccalaureate, 2014p, pp. 54-61).

The Standard and Higher Levels also have in common the study of an optional topic amongst four (relativity, engineering physics, imaging, or astrophysics), as well as a practical scheme of work. Here, too, mathematical equations using symbols referring to physical concepts are at the core of the study of the four optional topics (International Baccalaureate, 2014p, pp. 94-129). The DP Physics syllabus is supplemented with a 17-page *Physics Data Booklet* detailing a list of 18 fundamental constants to be used in the course, plus 10 pages of core equations for the different course themes. For these core equations, four pages are dedicated to the SL topics, three pages to the additional HL topics, and three pages to the options. Most pages contain at least 15 and often more than 20 equations and formulas (International Baccalaureate, 2014o). With such a dense web of equations in DP Physics, it would come as no surprise if students uncomfortable with this kind of cognitive gymnastics saw DP Physics as a foreign language. The data booklet highlights the extent to which proficiency in the use and manipulation of mathematical formulas and associated symbolic tools is necessary for performing well in DP Physics, even at the Standard Level.

HL students spend an extra 10 hours learning the optional topic selected by their teacher, as well as an additional 20 hours doing their practical scheme of work. On top of this, HL students also add an extra 60 hours to study their four additional HL topics: (1) wave phenomena, (2) fields, (3) electromagnetic induction, and (4) quantum and nuclear physics (International Baccalaureate, 2014k, p. 2). As with DP Mathematics and Chemistry, the additional components that differentiate between SL and HL Physics are highly theoretical. Students are solving equations involving "acceleration, velocity and displacement during simple harmonic motion" (wave phenomena), "orbital energy of charged particles in circular orbital motion and masses in circular orbital motion" (fields), "magnetic flux, magnetic flux linkage and Faraday's law" (electromagnetic induction), and "the radioactive decay law for arbitrary time intervals"

(quantum and nuclear physics) (International Baccalaureate, 2014p, pp. 72; 82; 84; 92). All these objectives represent what students should learn in terms of ‘applications and skills’, that is, for the learning objective meant to be more concrete and practical in Sciences subjects. It seems reasonable to consider that solving abstract systems of equations in areas of knowledge with a remote practical relevance would, for most students, not count as practical and concrete learning activities. This contentious conception of ‘practice’ in DP Physics is more likely to be seen as a very theoretical endeavour by many students.

The domination of theory in DP Physics is confirmed by the relative weight of the various examination components. For Physics SL and Physics HL, 80 percent of students’ final grade is determined by their performance in written external examinations, while their individual investigation makes up only one fifth of their mark (International Baccalaureate, 2014k, p. 2; 2014l, p. 2). Moreover, even the individual investigation is marked based on the *written report* students produce. In all three major Sciences subjects offered in the DP in Australia, it thus appears that the importance of the practical scheme of work is typically undermined by its inferior position in the assessment model. The discursive emphasis on experiments in the description of the course does not result in a corresponding concern for *assessing* students’ experimental work.

As in the case of Biology and Chemistry, the two levels of study of DP Physics are organised vertically, and the superior version of the subject represents a more formal conception of physics in which learning represents a progressive induction into the physics of physicists. The theoretical hierarchy of cognitive demands placed on DP students in Physics is exemplified in the sample examination questions provided in the SL and HL subject briefs. Even though the sample questions for SL and HL Physics both allude to situations that many students could visualise, such as the free fall of an object (SL), an experiment where a piece of metal is heated in a pot of boiling water and transferred to a container filled with cool water (SL) (International Baccalaureate, 2014l, p. 2), a situation where the pressure inside a tower is of a certain value (HL), or a case where students consider the distance between streamlines above and below an aerofoil (HL) (International Baccalaureate, 2014k, p. 2), the knowledge tested through these categories of situations utterly differs between SL and HL. At the Standard Level, students are invited to find the correct number of decimals to be used in a specific

context, or to identify a source of error in the ‘metal in water’ experiment (International Baccalaureate, 2014l, p. 2). At the Higher Level, on the other hand, students are asked to determine the number of molecules of air in the tower, or to give an explanation for the differential air speed to be observed above and below the aerofoil (International Baccalaureate, 2014k, p. 2). The difference in thinking processes required for these questions is manifest, as the HL sample questions operate at a less directly meaningful level. To that extent, DP Physics is no different from the hierarchical organisation of physics subjects in Australian state curricula. In both cases, “the student of the physical sciences is led away from the manipulable phenomena of light, electricity and motion to fundamental concepts of mass, force, velocity, and acceleration, and to formal quantitative statements of the relationships between them” (Teese & Polesel, 2003, p. 102).

As with all other subjects mentioned thus far, even though the presence of Physics SL in DP Group 4 makes Physics accessible to a wider range of students (based on their cultural and cognitive skills) than if only Physics HL were available, the inferior results that students choosing Physics SL obtain (on average) limit the degree of social accessibility induced by the presence of Physics SL in Group 4. In Physics HL, 44 percent of DP students worldwide scored 6 or 7 at the November 2014 examination session, while only 30 percent of Physics SL candidates received the top or second-best grades (International Baccalaureate, 2015h, p. 17). Given the hierarchical degree of theorisation demanded between Physics HL and Physics SL, the unequal rates of success in the two versions of the course imply that students’ theoretical skills in physics are highly rewarded in the DP. Without exception, the ‘big three’ science subjects in the DP are highly rewarding (academically speaking) for students capable of choosing the HL version of these subjects. Accordingly, the design of DP Group 4 subjects contributes to distributing DP results unequally depending on students’ ability to master the cognitive demands of science and mathematics subjects.

4. Between and beyond the traditional science subjects

As the previous sections demonstrates, the analysis of DP Sciences syllabi reveals that the hierarchy of subjects, using their degree of formalisation as the ranking criterion, is dominated by Physics, the most mathematical of the three major sciences in Group 4. It

is followed by Chemistry, while the lowest position is occupied by Biology (becoming more ‘chemistry-driven’ as one shifts from SL to HL). Yet, for all three subjects, the importance of abstraction is evident even at the Standard Level. The cohabitation of systems of symbolic formalisation with experiments and practical work progressively gives way to the advanced manipulation of mathematical formulas and equations using chemical or physical symbols.

Science subjects in the DP not only have an internal structure, in which students opting for the HL version simultaneously (1) study a more theoretical version of the subject and (2) tend to obtain better scores. Biology, Chemistry, and Physics in the DP also form a vertical hierarchy of subjects based on the grades student obtain upon completing them. Is the *theoretical* hierarchy of science subjects translated into unequal achievement between subjects? At HL, the lowest marked of the three major Sciences subjects is Biology (4.8), while Physics and Chemistry are significantly more rewarding (5.1 and 5.2 respectively) (International Baccalaureate, 2015h, p. 17)⁷⁶. Although Physics HL students do not receive higher grades than Chemistry HL students, both subjects stand significantly higher on the academic reward ladder than the ‘friendly science’. The theoretical hierarchy of science subjects thus aligns sensibly with the academic hierarchy of achievement between them. The vertical ranking between Sciences subjects at the November 2014 session was not accidental: the same pattern was evident in the November 2013 and November 2012 examination sessions (International Baccalaureate, 2013g, p. 17; 2014s, p. 17) as well as in the May 2014 and 2015 ones (although more moderately) (International Baccalaureate, 2014r, p. 20; 2015g, p. 21).

The DP Sciences subjects commonly offered in Australia form a double hierarchy. First, they embody an internal hierarchy, where the HL version is both more theoretical and selects students more likely to obtain high grades than in the SL version. Second, they form a hierarchy between subjects, where the most theoretical subjects (Physics and Chemistry) are also the most academically profitable. Indeed, whereas 35 percent of Biology HL students obtained a grade 6 or 7, it was 44 percent of Physics HL students and as much as 50 percent of Chemistry HL students who scored one of the

⁷⁶ These values are taken from the November 2014 examination session worldwide. The same hierarchy of subjects was evident at Standard Level (with mean scores of 4.1, 4.5 and 4.7 for Biology, Physics and Chemistry respectively) (International Baccalaureate, 2015h, p. 17).

two highest marks possible in November 2014 (International Baccalaureate, 2015h, p. 17).

In ‘The social determinants of academic competence’ section (earlier in this chapter), I discussed the unequal preparation of students from different social origins for the cultural and cognitive demands embodied in the most ‘theoretical’ subjects in senior secondary academic curricula such as the DP. The structural relation between the extent to which an abstract conception of science underpins the design of DP Sciences, on one hand, and the average academic results in these subjects, on the other hand, implies that the structure and compulsory study of Group 4 makes the overall DP *curriculum* socially discriminating on cognitive and cultural grounds. To that extent, the structure of the DP curriculum contributes to explaining the DP contribution to the reproduction of social inequality in Australia.

The common approach to science as a predominantly abstract form of learning in the three dominant Group 4 subjects is sustained by the grade descriptors issued by the IB organisation. Beyond the importance of the summative assessment in determining what is considered as important in a given subject, the fact that the grade descriptors are *identical* for the different DP Sciences subjects demonstrates the existence of underlying principles for judging the value of students’ performance in Biology, Chemistry and Physics. The comparison of a low grade descriptor (such as grade 3) and the best grade descriptor (grade 7) supports the hypothesis that, in the DP, the *theoretical* core of the different sciences represents the highest form of learning expected from students. The student obtaining a grade 3 “shows a partial comprehension of *basic concepts and principles* and a weak ability to apply them” and “shows some ability to manipulate data and solve *basic or routine problems*” (International Baccalaureate, 2014d, p. 13, my emphasis). On the other hand, a student graded 7 displays “a *thorough command of concepts and principles*”. She “selects and applies relevant information, *concepts and principles in a wide variety of contexts*” but also “constructs detailed explanations of complex phenomena and makes appropriate predictions” (International Baccalaureate, 2014d, p. 12, my emphasis). Above all, a top-grade student in DP Sciences masters concepts and principles and is highly capable of manipulating them skilfully and creatively, whereas a student failing to reach an average grade possesses no more than basic concepts and is inefficient at manipulating and using them in novel contexts.

Ultimately, it is still the *comparative* learning expectations placed on DP students that primarily determine if the curriculum is more socially discriminating than the state and territory curricula in Australia. Precisely because the DP is an alternative curriculum in Australia, it is only the *relative cognitive demands* of the DP that matter in assessing its specific social selectivity. Mary Dixon and her colleagues' report supports the main argument put forward in this chapter. Their results indicate that DP Sciences subjects place a greater emphasis on theoretical depth than the Australian state curricula, especially in Chemistry (Dixon et al., 2014b, pp. 54-55). The intellectual demands embodied in DP Sciences subjects are likely to be more socially discriminating on cultural and cognitive grounds than the corresponding cognitive demands in the AC. And while the content of DP and AC subjects in science largely overlaps, the DP places greater emphasis on external assessment (Dixon et al., 2014b, pp. 54-57), leaving little room to assess students' experiential learning through personal investigations and experiments. Based on the analyses provided in this chapter, as well as the study conducted by Mary Dixon and her colleagues (Dixon et al., 2014b, pp. 54-55), it is reasonable to assume that the more formalised cognitive and cultural demands in the DP contribute to explaining the overall social selectivity of the program in the Australian context (as outlined in chapter six).

VI. Conclusion: curricular offerings in comparative perspective

It would no doubt be beneficial to pay close attention to the other curricular requirements of the DP in comparative terms. In the 'DP core', for instance, the abstraction of the Theory of knowledge course and the academic framing of the Extended essay may well contribute to (1) the social selectivity of the DP, and (2) the unequal distribution of chances for academic success between students from different social origins in the DP. The requirement for DP students to select two language subjects may also prove socially discriminating, depending on the languages available (especially the presence or absence of ethnic languages) and the cognitive architecture of these subjects. At the same time, it must also be remembered that is only the

comparative study stipulations of the DP that determine its relative social selectivity. The regime of curricular alternatives in which the DP is embedded in Australia implies that the cognitive demands of its subjects must be analysed in comparative terms. In the same movement, the researcher also needs to move beyond a subject-by-subject analysis towards a program-level analysis of curricular alternatives in order to explain the social accessibility of the respective curricula.

The *total* cultural and cognitive demands of any curriculum cannot be reduced to the sum of the demands of its individual subjects. There is a systemic dynamic at play making the requirements of the entire curriculum superior to the requirements of its individual subjects. If students have to study a greater number and/or wider range of subjects (such as DP students asked to select six subjects from six different areas of knowledge, for instance), the cognitive demands of the curriculum (and thus its potential social selectivity) are magnified. In addition, the combination of subject-based demands also increases the cultural requirements placed on students, especially as the *academic polyvalence* and time management skills required to be successful become more socially discriminating.

In French secondary schools in the 1960s, students from privileged social origins were overrepresented in the streams where the curriculum was broad and the areas of knowledge numerous (de Saint-Martin, 1971, p. 52). In the same vein, the breadth and depth of the knowledge DP students are asked to acquire can help in explaining the unequal representation of students from different social backgrounds in the DP in Australia. Given that the minimum breadth of knowledge required to complete the Australian state curricula is inferior to the six curriculum areas (and three core components) constitutive of the DP requirements, it also means that the DP is likely to be *more socially exclusive on cultural and cognitive grounds* than Australian state curricula. As I have clarified elsewhere: “the DP, by the mere structure of its curriculum, tends to select broad-spectrum cultural capital possessors, all-rounder students in command of a diversified educationally-relevant cultural capital” (Maire, 2015b, p. 202).

In the following chapter, I demonstrate that school-level factors also explain the quality of the DP opportunity and its distribution to different social groups in Australia. In the present chapter, I have shown that the specific cognitive and cultural demands that the DP curriculum places on students are likely to play a part in its current social

uptake in Australia. Focusing on the senior secondary curriculum of the 1970s, Teese and Polesel (2003, p. 29) explain that “both the cognitive skills and the implicit cultural demands of the more academic subjects favoured the family educational background, the cultural capital, language abilities, social training and intellectual disposition found in the homes of university-educated professionals and managers”. The structure and theoretical orientation of science and mathematics subjects in the DP seem to favour the same social groups in present-day Australia.

In the DP curriculum, the architecture of Groups 4 and 5 subjects appears to rely on *theoretical and conceptual structures*, and the corresponding cognitive demands in these subjects seem more demanding than the comparable demands in state curricula. A logical implication of this finding is that offering the DP in schools with a significant share of disadvantaged students may be insufficient for making the DP accessible to all social groups or, more precisely, for ensuring that the DP remains an educational opportunity of superior quality when provided to students from disadvantaged backgrounds. It is only if students from disadvantaged backgrounds are provided with the instruments required for mastering the DP curriculum *as skilfully as students from privileged backgrounds* that the DP can defuse its curriculum-based contribution to the reproduction of social inequality in Australia. To that effect, I will suggest propositions for reforming both the DP curricular demands and its position in the school system in chapter ten.

As I mentioned earlier in this chapter, the acquisition of specific types of abstract reasoning and conceptual knowledge can be legitimate educational objectives in science, mathematics, and beyond. But their legitimacy can hold only if all students are given fair opportunities for mastering the cognitive and cultural demands of the curriculum⁷⁷. The first principle for ensuring that the theoretical demands of any curriculum are legitimate is thus to acknowledge and take students’ unequal preparation for meeting these demands into consideration. Assuming that students from different backgrounds are all equal before the curriculum—and thus concluding that they must be placed in the same learning conditions—is a damaging misconception that must be overcome by those who support an equitable distribution of educational opportunities.

⁷⁷ In that regard, providing fair senior secondary opportunities to students from all social backgrounds relies on a fair distribution of educational opportunities at the lower levels of the school system.

Chapter Eight

The Supply and Consumption of the DP in Australia: Elements of Socio-Historical and Economic Explanation

In this chapter, I argue that the supply and consumption model of the DP contributes to explaining the quality of the DP opportunity and its social distribution. However, the present-day supply and consumption of the DP alternative in Australia can only be understood if we grasp the social history of the DP in Australian education. Accordingly, I open this chapter by outlining the social milieus in which the DP was developed and first implemented, before reviewing some historical landmarks of the expansion of the IB organisation. I then focus on the growth of the DP in Australia in the context of some major transformations in the Australian education system. I contend that the structural reforms that have altered the Australian education system since the end of the 1980s have largely determined the contemporary contribution of the DP to the reproduction of social inequality, based on the quality and social distribution of the DP opportunity.

I. The social origin of the DP

The position of the DP in the social and academic hierarchies of the different school systems in which it is implemented is not an accident. The very design of the first IB program—the DP—and its earliest implementations can help in explaining its current supply and consumption and, thus, its *place* in the school-based system of reproduction of social inequality in various countries. The original architecture of the DP curriculum, and the subsequent decisions made by the IB organisation regarding the DP implementation and study policies, have partly determined the social profile of the DP clientele and the quality of the DP opportunity. There are two major features of the original IB project that are relevant for making sense of the subsequent supply and

consumption of the DP worldwide: (1) the categories of students and schools it was intended for, and (2) the history of the structures of the IB organisation, especially its funding model.

1. The original DP market segment

The International Schools Association was founded in 1951 by parents of students enrolled in international schools and United Nations officials. In 1961, teachers at the International School of Geneva drafted a model for an *international examination for university entrance* (Peterson, 2003 [1986], p. 17). At the annual meeting of the International Schools Association in 1964, the decision was taken to create a separate association, the International Schools Examination Syndicate (ISES), to pursue this international secondary credential project. In 1966, Alec Peterson, who had been director of the Department of Educational Studies at the University of Oxford since 1958, became Director General of the ISES (Saxton & Hill, 2014, p. 45). The following year, he secured a \$300,000 grant from the Ford Foundation for his international pre-university credential project. In the same year, the ISES changed its name to the International Baccalaureate Organization (IBO), making Alec Peterson the first Director General of the IB (Peterson, 2003 [1986], pp. 23-24).

The IB program was developed to supply ‘international schools’ (that is, non-government schools with a large share of foreign-born students) with a unique credential recognised by universities in more than one country (Hill, 2002b, p. 203). Almost all of these ‘international schools’ were private, fee-paying schools (Hill, 2002a, p. 25). Accordingly, the IB program was initially developed for a socially selected sub-population of students and families. In fact, the IB program was not implemented in any kind of ‘international school’: Peterson (1972, pp. 13-14) specifically wished to recruit “high standing” schools to participate and implement the IB senior secondary examination system. Peterson was successful in his endeavour, and this early school-level elitism can explain the social origin of the first IB students. At the same time, the selection of high standing international schools for the IB, and the high reputation of Alec Peterson and his collaborators, explain the success of the first campaign led by the IB to have its pre-university credential recognised by universities around the world. The very first IB graduates were eligible for some of the most

prestigious universities in the world, including the University of Oxford. Expectedly, most of the students who took part in the IB experiment went on to become academically successful at university, and their post-secondary achievements set the stage for the subsequent success of the IB program overall.

In the words of one of its key founders, Alec Peterson (1972, p. 9), the idea of the IB was the ideal of a universal university entrance examination. As university admissions were the prime educational stake for most families in ‘international schools’, the IB developers worked to ensure the recognition of the DP as a valid certificate for university applications (Fox, 1985, p. 61). Designing a secondary education credential as a university-entry passport can be seen as self-evident for a twenty-first century senior secondary curriculum, but it must be remembered that accessing university in the 1960s was a much more socially selective path than it is today. Accordingly, it is evident that the International Baccalaureate program (what would later become known as the Diploma Programme) was, from its inception, not destined to occupy any kind of position within the structures of secondary education systems in which it would be implemented. The DP was meant to inhabit a specific *market segment* of secondary education, populated by certain categories of secondary schools in which specific profiles of students could be found.

Peterson (2003 [1986], p. 62) rightfully perceived that, by designing the DP as a pre-university qualification, it would necessarily make the program socially selective, since completing senior secondary education and pursuing education at university was not a majority experience at the time. Accordingly, the DP was originally created for a *social elite*. Yet, the initial social elitism of the DP was not bound to lead to its current academic and social elitism in Australia. Many senior secondary education systems were socially elitist during most of the twentieth century, but they have generally and progressively become more socially comprehensive. The enduring social and academic elitism of the DP—demonstrated in the UK and Australia—was thus not inevitable. Accordingly, other elements of explanation must be provided for understanding the persistence of the elitist DP position in the academic and social hierarchies in Australia.

In the early years of the IB venture, the academic and social capital of the most prominent IB promoters (Hill, 2002b, p. 198; Tarc, 2009, p. 12) led them to lobby for IB recognition in *the best universities in the world*. Their objective was not local, mediocre, or second-grade universities. They aimed for—and were successful at—

convincing the most elitist and prestigious institutions in the European and Anglophone worlds to accept the DP as a university-entry qualification. Peterson (2003 [1986], p. 36) acknowledges that the IB's initial point of reference was to lead its students through the doors of the prestigious European universities, because that was what its 'customers' were looking for. The IB program was thus constructed as a credential for *the elite student population amongst the elite*, that is, for students aiming at the most selective universities amongst the already selected population of students going to university.

For Peterson and his colleagues, the objective of enrolling university-aspiring students from 'international schools' was insufficient. If they managed to convince high-achieving students in elite 'international schools' to be the first ones to enrol in the DP and obtain the DP credential, these students would probably succeed in the best universities and thus build a great reputation for the fledgling DP program. Accordingly, Peterson and his colleagues focused on the most high-achieving and academically driven of them: "we were concerned with a very specific group, the *intellectually able* and *academically motivated* candidates for university entry" (Peterson, 2003 [1986], p. 34, my emphasis). There is no doubt that the academic elitism of the IB in the early days resulted from the interest of its creators in 'gifted' and upper-class education (Remillard, 1978, p. 216).

It comes as no surprise that Peterson and his colleagues believed in the legitimacy of a social order founded on differences of 'intellectual ability' or 'intelligence' (as measured by school achievement), since it is precisely this principle of educational and cultural distinction that had consecrated them as worthy of occupying superior social positions. In doing so, however, they ignored the mounting criticisms against this 'racism of intelligence' (Bourdieu, 1993 [1984], p. 178) and the early research revealing the socially-constructed nature of 'intelligence' and 'intellectual ability' in the 1960s (see chapter seven). Predictably, the 'brains' behind the IB took great precautions in choosing the first IB students, as they rightly understood that the first impression would be crucial in determining much of the future possibilities for the DP. Given this careful process of academic and social selection, it comes as no surprise that the first cohorts of IB students in 1970 and 1971 were successful at university. Many of them gained access to their desired university in the US and the UK (Peterson,

2003 [1986], p. 69), and several even received scholarships from Yale or Oxford Universities (Hill, 1993, p. 251).

This early enterprise of symbolic construction—or acquisition of symbolic capital—cannot be underestimated for understanding the historical trajectory of the IB. If it is arguably the social capital of the first IB promoters that permitted its recognition for university entrance in the most elite universities, without any objective grounds supporting this recognition (that is, in the absence of any preliminary tests of IB students' academic performance), the university enrolment and outcomes of the first IB graduates were the real test for the IB program. Their success at the tertiary level (as expected, given their social and academic backgrounds) acted as the foundational argument for legitimising the initial credit given by universities to the IB. The first IB cohorts were thus instrumental in positioning the IB program as a high-standing alternative, in which socially and academically elite students were overrepresented. These early stages of the IB venture set the self-reinforcing mechanism of (informal) selection and success in motion. Thanks to subsequent implementation, funding, and examination policies, the initial high standing of the DP has been sustained and furthered in many countries over the years.

2. Explaining the emergence of the DP

Beyond the explanation of the initial social and academic elitism of the DP, a question remains. Why did a *demand* for internationally-recognised secondary qualifications become manifest and gain momentum specifically in the 1960s? I contend that transnationally mobile families enrolling their children in 'international schools' had a double interest in the emergence of an IB-type credential. Such a qualification would offer them (1) the stability and continuity of education they wished for their children when crossing borders, and (2) the guarantee that the education their children received would allow them to access world-class (i.e. elite) universities. Still, why did this interest not lead to the emergence of an internationally-recognised credential of the DP-type earlier or later than the 1960s? There was a good reason for the DP to be developed in the 1960s. I argue that the great massification of secondary education that was occurring across many Western countries in the 1950s and 1960s (see chapter one) is a crucial element of explanation for the emergence of the IB program.

In the 1960s in many Western countries, the participation of students from middle-class origins in secondary and tertiary education largely increased (marginally in the case of more disadvantaged social groups). The social availability of secondary and tertiary education became more democratic, even though this increased accessibility did not signify the end of the education-based reproduction of social inequality (see chapter one). The rise in the consumption of secondary and tertiary education, combined with an insufficient growth in the supply of certain university degrees, led to an *intensification of the competition for valuable credentials*. With the massification of the 1960s, academic credentials available in limited supply were becoming far scarcer.

The unprecedented movement of massification of secondary education in many Western countries in the third quarter of the twentieth century gives credit to the argument that the emergence of a demand for the DP in the 1960s cannot be explained by a hypothetical novel interest in (foreign) university access from families represented in 'international schools'. Internationally-mobile social groups, such as the ones educated at the International School of Geneva, were the traditional users of higher education systems before the 1960s, and they were interested in (foreign) university access before that time. In other words, the hypothesis of a sudden emergence of a demand for an *international credential* leading to the development and success of the DP is unconvincing. Rather, it was the progressive erosion of the social elitism of secondary education, which had traditionally served economically and above all culturally privileged families, that led advantaged social groups to take an interest in a credential such as the DP.

If the massification of senior secondary education can explain that an interest in excellence streams and alternative curricula developed in the 1960s and 1970s, a detailed analysis of the relative appeal of different enrichment and alternative programs would help in making sense of the specific success of the IB. In any case, it is impossible to understand the movement towards the creation of the IB program and its success without accounting for the morphological changes in the corresponding school systems occurring at the same period. As the competition for university entrance became fiercer, traditional users of universities looked for new means of securing the educational superiority (and its related benefits for future life chances) that the school system had previously reserved to them. It was at this crucial moment of transformation

in the relative use of education systems by competing social groups that the IB was crafted.

This interpretation is actually confirmed by Alec Peterson himself. He recognised that the ‘need’ for an international examination such as the IB only emerged in the second half of the twentieth century, when access to universities became more ‘academically selective’ (Peterson, 2003 [1986], p. 16). The mounting academic selectivity for accessing universities was the result of the increasingly competitive academic race between social groups, itself caused by the growing demand for university education formulated by students from backgrounds previously underrepresented in secondary education. The initial demand for the DP was thus grounded in *strategies for positional advantage* in a system of positional competition, that is, the desire to achieve better outcomes than others in a context where academic credentials are supplied in limited number. However, the original interest in the DP still does not explain its current academic and social profiles in Australia. It is only the subsequent orientations taken both by the IB organisation and by the Australian education system that can elucidate the path taken by the DP in Australia.

II. A social history of the DP

1. The evolution of the DP offer

While the academic success of DP candidates during the first DP years built the *symbolic capital* of the program, its material viability was yet to be established. On the economic side, the most pressing issue, after the temporary sources of funding of the early days, was to find a stable financial model for the IB to function. The organisation initially wanted to have the overall IB project sustainably sponsored by governments and UNESCO by 1975 (Peterson, 2003 [1986], p. 84). However, in June 1976, UNESCO withdrew its financial participation to the IB and, at that point, the IB started relying almost exclusively on *schools* to finance its operations (Remillard, 1978, p. 97). Earlier in 1975, the IB had put forward the proposal that schools willing to implement the IB should pay an annual subscription fee (Peterson, 2003 [1986], p. 93). This event was a milestone in the history of the DP and its social accessibility, as the model of

annual school subscriptions has remained in place ever since. This very model was likely to engineer the *structural exclusion* of small and humble schools from the IB, as the relative cost (as a proportion of their total income) of implementing such a program is greater for these categories of schools. In many cases, the impossibility for smaller and less wealthy schools to implement the DP soon became evident.

The annual subscription fee was insufficient to cover the various costs of an educational entity such as the IB. The organisation was already charging its customers (i.e. students and their families) for examinations fees before 1975, but from that year onwards, the cost of organising the DP examinations became less than the total school registration fees collected by the IB. By 1977, the surplus was substantial and in 1985, half of the IB income came from school subscriptions, and a quarter from examination fees⁷⁸ (Peterson, 2003 [1986], p. 147; Remillard, 1978, p. 99). By the middle of the 1980s, the IB had completed its move towards a double-fee structure for its financial viability. To this day, examination fees and school subscriptions remain the major sources of income for the IB organisation (44 and 22 percent of its total income respectively), followed by its income from workshops and conferences (21 percent) (International Baccalaureate, 2015b, p. 6).

By 1985, the organisation had become financially healthy, largely due to its growth in North America, and especially drawing on the massive implementation of the DP in US public schools (Tarc, 2009, p. 54). In the following decade, the organisation entered a phase of bureaucratisation and corporatisation, as its size became significant and hardly manageable within its traditional organisational structure. In 1991, the IB had established four Regional Offices in Latin America, North America, Europe-Africa-Middle East and Asia-Pacific, in order to oversee its growing implementation in these regions (Hill, 2003 [1986]-a, p. 258). The ‘corporate model’ of the IB was established with the creation of branches, such as the business and affairs division in 1997 (Hill, 2003 [1986]-a, pp. 249; 255). At the 2000 Council of Foundation meeting, the governance structure of the IB was transformed: instead of nine members from governments, nine heads of IB schools, and nine *ad personam* members, the Council of Foundation became a more administrative and *managerial* corporate body (Hill, 2003 [1986]-b, p. 312).

⁷⁸ The rest of the income was provided by government contributions and grants.

The 1990s were also the years of diversification of the IB products. Two new programs were put on the educational markets open to them. In 1994, while the IB organisation was working on new programs, the IB curriculum was rebranded as the Diploma Programme (DP) (Hill, 2003 [1986]-a, p. 241). The IB released the Middle Years Program (MYP) in 1994 and the Primary Years Programme (PYP) in 1997 (Hill, 2003 [1986]-a, pp. 243-245). A related structural feature of the IB growth in the 1990s was its large take-up by non-international schools, fulfilling increasingly instrumental functions in local and national contexts. Focused on the objective of growth, the organisation tripled its school affiliations in the 1990s (Tarc, 2009, p. 90). The last decade of the twentieth century was a vital period for the global success of the IB and its program. More generally, the growth in the implementation of IB programs and in the number of student enrolments has been noteworthy throughout the recent IB history. Between 1999 and 2009, for instance, the growth rate in IB student enrolments exceeded 10 percent annually (Tarc, 2009, p. vii), and between 2005 to 2010, the IB growth approached 20 percent per annum (Hanover Research, 2010, p. 6).

The market success of IB programs precisely coincided with the corporatisation of the IB organisation. In 1999, John Lowe (1999, p. 329) predicted that commercial considerations would become increasingly important for the IB, as the structures of educational systems across the world were reshaped by neoliberal policies. Lowe was right: in the 2000s, the IB moved towards a business model and fully embraced its corporate approach to education. The two rising activities of the company were *branding* and *marketing* its products in order to ‘grow’, especially since the development of its new programs in the middle of the 1990s (Tarc, 2009, p. 94). With its 2000s image campaign (IB logo, corporate identity, promotional videos, visual documents, and so on), the IB became “a more corporate, business-oriented purveyor of branded ‘products’” (Bunnell, 2011, p. 163), fully embracing its increasing presence in countries with education systems organised on a neoliberal model.

The importance of branding and marketing activities for the IB has endured into the 2010s. In December 2015, the IB website was completely reshaped and updated, made more accessible and easier to navigate, and it started proposing targeted content for all interested parties (universities, students, families, schools, and even governments). As the IB ‘Career-related certificate’ (or IBCC, the latest IB product released in 2011) became the ‘Career Programme’ (CP), all programs saw the logo

representing their curriculum structure upgraded in a visually appealing way. At the same time, new promotional documents were released, and short videos about the IB programs were made available on the IB website.

In recent years, the IB has moved beyond its school-by-school model of market growth. Based on its widespread implementation, its growing vitality, and its respected reputation, the organisation has developed a model of “engagement with education policy makers worldwide” (International Baccalaureate, 2015a, p. 5). Through its recent collaborations with government officials in the United Arab Emirates, Ecuador, Japan, and Malaysia, the IB organisation has been attempting to offer its programs to clusters of schools. Based on negotiations with the relevant educational authorities, the IB has thus pursued—and possibly accelerated—its expansion.

Despite the major changes that have transformed the IB organisation in its almost 50 years of existence, one of its products has experienced the utmost stability: the DP curriculum. As educational systems have been transformed and, in some cases, espoused market models of provision of education; as the IB organisation has been adopting a corporate structure; as the magnitude of the DP has evolved from a handful of students to tens of thousands of candidates every year; and as secondary and tertiary education have become more socially inclusive in many countries, the DP curriculum has remained virtually unchanged. The implementation of the DP has arguably moved from an international product for non-government ‘international schools’ to a local product for government and non-government schools. Yet, the DP curriculum has had an extraordinary permanence: the six DP subject groups (see chapter seven) were part of the early design of the DP curriculum (Peterson, 2003 [1986], p. 45); ‘Creativity, action, service’ and ‘Theory of knowledge’ were already included in the DP curriculum of the late 1960s, and the ‘Extended essay’ was added in 1974 (International Baccalaureate, 2015i, p. 7). It is noteworthy that, in more than forty years, the DP has conserved the same curriculum structure. This curricular stability is an important factor to consider when analysing the evolution of the academic and social elitism of the DP.

2. Academic and social inequality in the DP

In the previous section, I detailed the initially elitist academic and social profile of the DP, based on its limited supply and consumption in ‘international schools’. I then

outlined that the dominant supply of the DP in these schools was progressively replaced by a large-scale supply of the DP (primarily) in non-international schools in the 1990s, while the DP curriculum structures remained virtually unchanged. What were the consequences of this evolution for the social and academic profile of the DP? In his history of the IB organisation, Paul Tarc (2009, pp. 124-126) identified the social elitism of the IB as one of its four 'enduring tensions'. According to his analysis, the social inequality of access to the IB programs has persisted to this day and is one of the major elements for grasping the social history of the IB. While several educators and researchers had raised the issue of the IB social elitism in the 1970s, the organisation did not respond with purposeful strategies for decisively broadening the social accessibility of the DP opportunity. The justification invoked at that time was that the organisation needed to be successful and experience more growth before being able to become more inclusive (Tarc, 2009, p. 36). In a 'pragmatic' but socially damaging way, the IB chose to be 'operational' first and postpone the discussion of social justice and equality of educational opportunity issues. To date, the objective of growth remains a higher priority for the IB organisation than the objective of a socially fair access to its programs.

Against this disjointed conception of the questions of growth and social accessibility in the DP, I argue that the funding model adopted by the IB organisation in the 1970s has made its social elitism a *structural necessity* (at the global level at least), rather than a by-product of its activities. By becoming financially viable through the resources of its schools and candidates, the IB inscribed uneven access into its financial model. For Tarc (2009, p. 48), in 1974, the IB seemed to be looking for its future identity. He argued that the IB organisation was aware of being at crossroads, where the DP program could become either more socially inclusive or further appropriated by certain social groups. The adoption of a financial model based on fee-paying schools and candidates turned the social inequality of access to the DP into an *enduring* issue. From that point onwards, limited access for disadvantaged populations (students, schools, or countries) would be built directly into the financial structures of the organisation.

An early research project conducted by James Remillard offers insightful elements on the IB stance regarding its social and academic uses. Remillard (1978, p. 114). remarked that, at the IB Sèvres conference of 1967, numerous participants

challenged the social elitism of the IB, and one American commentator described the program as being typically implemented in “school[s] for rich kids” At many subsequent IB conferences in the 1970s, participants argued that continuing to serve the original IB customers (i.e. a group of socioeconomically advantaged students from ‘international schools’) would not address the ‘democratisation’ of secondary education—defined as the increasing social accessibility of a given level of education (Merle, 2000, p. 15)—that was taking place in many countries at that time. Remillard (1978, p. 101) noted that the IB organisation responded to these comments by asserting that it served an intellectual elite but *not* a social elite. Whereas many secondary education systems were becoming more socially representative at the time, the IB advocated for a *specific* education for future leaders in society, which served at the same time “to distinguish them from the masses” (Remillard, 1978, pp. 112, original emphasis). This conception of education ‘for the elite’, combined with a belief in the innate and unchangeable differences of cognitive abilities between ‘intellectually able’ and intellectually unable students (using Peterson’s formula quoted on page 246), is hardly compatible with the aspiration to a fair distribution of educational opportunities between students from different social origins (see chapter one).

Hahn provided additional evidence about the stance of the IB organisation on its ‘inequality’ issue. Analysing the *IBO Bulletin Series* throughout the history of the organisation, Hahn (2003, p. 112) commented that elitism used to be “a prominent theme” generally addressed by the Director General in the earlier years of the IB organisation. In accordance with the posture revealed by Remillard, Hahn (2003, pp. 112-113) noted the “obfuscation of the social and economic dimension” in the IB official discourse about elitism: while the academic or intellectual elitism of the IB was accepted, its social or economic elitism was vociferously refuted. Instead of recognising the strong ties between the academic and social profiles of students that had been demonstrated and explained since the 1960s, the IB tried to hold a “mutually exclusive” position regarding the relations between social and academic elitism (Hahn, 2003, p. 113). More radically, the question of social elitism even disappeared from the IB official discourses in the 1980s (Hahn, 2003, p. 142).

Interestingly, this discursive disjunction of the academic and social dimensions is evident in other elitist educational institutions. For instance, as Teese (2000, p. 220) appropriately remarked about the University of Melbourne of the 1980s: “protest

though they may that they are academically but not socially elitist, the leading universities cannot fail to be both”. The factually untenable defence of being academically elitist without being socially elitist is a discursive sleight of hand used to avoid addressing the complex issue of the relation between social and academic hierarchies. So far, the IB organisation seems to have been unable to address the challenge of the relation between social background and educational chances, at least in Australia.

III. The DP in the Australian school system: a structural history

In the previous section, I provided a brief history of the social and academic profile of the DP. I concluded that some core features of the IB funding model, as well as the lack of attention paid by the IB organisation to its social elitism, were likely to make IB programs contribute to the reproduction of social inequality in various contexts. In this section, I focus on one of these contexts. I outline some of the major structural transformations of the Australian education system that have taken place since the 1960s. I then provide a contextualised history of the DP in Australia and demonstrate that these broader changes in the Australian school system have subjected the DP to the logic of the reproduction of social inequality.

1. The early social functions of Australian universities

From their very early days, the social functions of the universities came to be tied to specific occupational groups. It was the *professions* that rapidly ensured that their training would become integrated into the universities, including in Australia. The University of Queensland, for example, was founded in 1909 with the explicit purpose of regulating access to the professions of being a dentist, pharmacist, doctor, lawyer, and teacher (Forsyth, 2014, p. 14). Thus, one of the main functions of Australian universities at the dawn of the twentieth century was to act as “gatekeeper[s] to the professions” (Forsyth, 2014, p. 13). The symbiotic relation between the Australian

universities and some of the most elite professions—a connection that has progressively extended to other professions—is the major reason for my repeated use of examples about university courses such as medicine or dentistry. These courses, because of the artificial labour scarcity to which they are connected, are some of the most selective, prestigious, and profitable university degrees in Australia. One cannot understand the school-mediated reproduction of social inequality in Australia without paying attention to the group of occupations demonstrating the closest relation with university education: the liberal professions.

This occupational function of Australian universities was historically coupled with the control exerted by higher education institutions on senior secondary school examinations. In the first half of the twentieth century, universities designed annual matriculation examinations in order to regulate access to their courses. In turn, different secondary schools prepared their students very unequally to succeed at these matriculation tests. For instance, at the matriculation examination of Melbourne University in the 1940s, more than half of all top grades ('first-class honours') were given to students coming from only five schools in Victoria (Teese, 2000, p. 18). In other words, these schools could help their students in meeting the cultural and cognitive demands expected by the Melbourne University matriculation examination better than the other schools.

This example not only demonstrates the double relation between (1) universities and elite professions, and (2) a small number of high-achieving schools and selective university access. What matters even more in this example is that two of these five schools capturing the majority of first-class honours would eventually implement the DP, in 1990 and 1991. These two schools were amongst the first 12 schools to offer the DP in Australia. The DP rapidly appealed to some of the most academic secondary schools in the Australian context. Importantly, these were not only academically elitist: they also enrolled predominantly upper-class students. Based on *MySchool* data, 75 percent of students in the traditional elite school where the DP was implemented in 1991 were from the highest socioeconomic quartile (Q1) in 2015, while only one percent of its student population came from the lowest quartile (Q4). Similarly, 79 percent of students of the academically excelling school where the DP was

implemented in 1990 were from the upper-class quartile in 2014, whereas only one percent of its students were from the lower-class quartile⁷⁹.

2. Massification in secondary education and the first Australian DP schools

The third quarter of the twentieth century was the first period of massification of secondary education in Australia. Popular demand for education rose, primarily driven by aspirations for upward social mobility by middle-class families (Marginson, 1997a, p. 42). The number of school students tripled between 1945 and 1972 (Campbell & Proctor, 2014, p. 179). The global trend towards more socially accessible secondary and tertiary educations had spread to Australia. As a response, university entry quotas⁸⁰ were first introduced in 1956 (for the University of Melbourne's medical school) and, by 1968, most universities practised restricted entries and competitive selections in some fields (Marginson, 1997b, p. 132). From 1965 to 1975, the number of secondary students rose by 43 percent; the number of university students by 228 percent; and the number of universities jumped from eight to 17 (Marginson, 1997b, p. 3). Between 1955 and 1975, the secondary school population more than tripled in Australia, while the tertiary student population increased almost ninefold (in comparison, the overall population only increased by 50 percent) (Proctor & Sriprakash, 2013, p. 228). There is thus no doubt that the traditionally restricted race for scarce university places became more competitive over this period.

Between 1965 and 1975, the overall public funding for education (from the states and the Commonwealth) almost tripled, and the share of enrolment in government schools rose from 76 to 79 percent (Marginson, 1997b, pp. 3-4). All states and territories started building an open-entry and inclusive secondary school system and, by the end of the 1960s, a comprehensive school system was in place in most of them (Campbell & Proctor, 2014, p. 189). Following the major funding reforms implemented by the Whitlam government after its election in 1972 (Connors &

⁷⁹ It must be noted that there is no necessary correspondence between the socioeconomic profile of schools in middle of the twentieth century and today. Nevertheless, elite private schools existing for more than half a century generally continue to serve similar socioeconomic communities over time.

⁸⁰ Quotas, also known as *numerus clausus* regimes, represent the paradigmatic case of legally created scarcity. In the case of quotas, the essential feature of this form of scarcity is its *externally imposed* nature.

McMorrow, 2015, p. 20), the middle of the 1970s represented the ‘golden age’ of government schools in Australia. Enrolments in comprehensive secondary schools were geographically-based, and these institutions were selective neither on economic capital (via tuition fees) nor on cultural capital (via intelligence tests or entry examinations). Alongside these inclusive government schools, corporate schools continued to cater for the socioeconomic elite (Campbell & Proctor, 2014, p. 191).

The curriculum reforms of the 1960s had led to greater conceptual depth in the different subjects, which became harder for many. Privileged families, which had traditionally dominated senior secondary education, were thus under the double pressure of (1) increased competition from previously excluded social groups and (2) more difficult curriculum demands (Teese & Polesel, 2003, p. 118). This heightened curricular pressure, in the context of a fiercer competition, explains why the interest in selective schooling from socially privileged families started to be reinvigorated. The principle of this education strategy is simple: “combining their cultural and financial resources to create segregated social settings is the answer which educated and better-off families give to the curriculum when its intrinsic demands are raised and when competition over access to the curriculum increases” (Teese & Polesel, 2003, p. 118). Selective schools would allow them to preserve or better their social position. The intensified competition facing the traditional beneficiaries of the secondary education system, at the curricular level and at the student level, can explain the important expansion of selective schooling, on academic and/or economic grounds, that would take place from the 1980s onwards.

The major advances towards an inclusive and democratic model of schooling in the third quarter of the twentieth century made the system less prone to be used as an instrument of reproduction of social inequality on economic and cultural grounds. Faced with major issues of under-resourcing in Australian schools at the same time as the population of students had multiplied, the Whitlam Labor government elected in 1972 nominated the Australian Schools Commission that delivered the Karmel report in 1973. The committee chaired by Peter Karmel (1973, pp. 16-24) recommended large increases in funding for schools according to their ‘needs’. The report even

demonstrated a rare awareness of sociological determinants of educational achievement⁸¹.

In the report, almost 70 percent of the funding proposal for 1974 and 1975 was destined for government schools (Marginson, 1997a, p. 47; Proctor & Sriprakash, 2013, p. 229). Between 1972 and 1976, the amount of Commonwealth funding to schools increased by more than 450 percent, and the share of Commonwealth funding going to government schools rose from 36 to 65 percent (Connors & McMorrow, 2015, p. 20). These considerable funding increases represent what Simon Marginson (1997a, p. 54) labelled as “the high-water mark of equality of opportunity policies in Australian education”.

Unfortunately, the policy proposals included in the Karmel report fell short of its clear understanding of the need to treat unequal students unequally. While the needs-based funding model and the allocation of additional funds to disadvantaged schools (under the Disadvantaged Schools Program) certainly improved the *absolute conditions* of many government schools, they did not significantly challenge their *relative position* in the hierarchy of schools: “the absolute resources of government schools were lifted, but their comparative position, even in economic terms, was not greatly advanced by these mechanisms” (Marginson, 1997a, p. 62). Therefore, while the Whitlam reforms limited the contribution of the school funding model to making the reproduction of social inequality possible, they did not challenge the system of reproduction more radically.

In order to pass its legislation on the Schools Commission through the conservative Senate, the Whitlam government had to accept changing its funding model to the advantage of elite private schools. It extended its general recurrent grants program to include highly-resourced elite corporate schools, and accepted that there would be no limit “for the income private schools could attain before forfeiting their entitlement to public funding” (Connors & McMorrow, 2015, p. 20). This funding model legitimised a contentious funding principle of recurrent government assistance to

⁸¹ “The capacity to succeed in the skills of abstraction which are central to academic achievement is itself unequally developed in different social groups. Hence, policies which concentrate on selecting those most capable of exercising these skills at particular points in time will inevitably favour children from higher socio-economic groups [...]. The provision of more equal educational opportunity requires [...] to supplement the opportunities open to children whose general conditions of life are least conducive to the development of scholastic ability. More equal outcomes from schooling require unequal treatment of children” (Karmel, 1973, p. 20; 22).

non-government schools that could have been made conditional or challenged altogether. In the following years, the Liberal-National Coalition government of Malcolm Fraser, in office between 1975 and 1983, did not miss the opportunity to use the principle of recurrent public funding for non-government schools to further advantage the non-government sector. Marginson (1997a, p. 68) summarises Fraser's overall contribution to school funding as follows: "between 1975-76 and 1982-83, Commonwealth funding of government schools fell by 18.9 per cent in real terms, but funding of private schools rose by 100.3 per cent".

3. The neoliberal tide and the progression of the DP

When it comes to the contribution of the inequality between schools to the reproduction of social inequality, 1975 marks a turning point in Australia. In the midst of the global recession of 1974 and 1975, Australia's economic situation quickly deteriorated, suffering simultaneously from high rates of inflation and unemployment. Capitalising on the shortfalls of Keynesian macroeconomic policies, monetarist economists argued for a reduction in government spending as an essential solution to the crisis. Even though monetarism had a limited effectiveness as a macroeconomic policy, it initiated a change in the dominant political and economic imaginaries. Reducing government spending and taxation became the dominant mantra of economists and politicians, especially in English-speaking countries. The objectives of fiscal consolidation and budgetary balance had become the directing lines of the Australian Treasury by the middle of the 1970s (Whitwell, 1990, p. 127). This new dominant conception of the role of the state progressively led to the advent of market regimes as modes of provision, including in education.

The transition from the Labor Whitlam to the Fraser Coalition governments in 1975 precisely marks the year with the highest share of government enrolments of the twentieth century at the secondary school level, with 76 percent (Campbell et al., 2009, p. 57). And despite the commitment of the Fraser government to budgetary restraint, Commonwealth funding for schools increased by more than 25 percent between 1976 and 1983 (Connors & McMorrow, 2015, p. 22). However, this figure hides a stark disparity between government and non-government schools. While the Commonwealth funding for government schools fell by 7 percent, its recurrent funding for non-

government schools almost doubled (Connors & McMorrow, 2015, p. 22). By 1982, non-government schools were receiving more federal money than government schools (Campbell et al., 2009, pp. 51-52; Proctor & Sriprakash, 2013, p. 230; Welch, 2015, p. 53).

The distribution of funding between sectors under the Fraser government completely transformed the landscape of schools in Australia. Between 1975 and 1985, the number of non-Catholic, non-Anglican private schools more than doubled (Marginson, 1997b, p. 155). By 1985, the share of students enrolled in government secondary schools had dropped to 71 percent (Campbell et al., 2009, p. 58). The Fraser government had progressively engineered the reinvigoration of the already-large and advantaged private sector, by facilitating the opening of new non-government schools and granting them advantageous funding support. The academic and social differences between government and non-government schools made the reproduction of social inequality more secure for advantaged families. Yet, this extensive privatisation of the Australian school system did not yet amount to the imposition of a market agenda in schooling.

The theories of Milton Friedman and Friedrich Hayek, champions of market liberalism, progressively made their way into government circles in the 1970s and early 1980s. Friedman and Hayek, alongside other economists and public choice theorists, criticised what they saw as the excessive intervention of the state in society and argued for making liberalised markets the core instrument of (non-)government in various domains of social life. In their opinion, this proposal needed to be applied to the education system (Friedman, 2002 [1962], pp. 85-107; Hayek, 2011 [1960], pp. 498-516). On the international stage, their ideas served as an inspiration for the political agendas of Margaret Thatcher and Ronald Reagan, respectively elected in the UK in 1979 and the US in 1981.

Both Friedman and Hayek personally came to Australia to deliver keynote addresses at conferences (in 1975 and 1976 respectively), and their ideas reinforced the increasing public credibility of the Australian New Right (Marginson, 1997a, p. 79). Nevertheless, while the Fraser government eased the transition towards the domination of laissez-faire market theories in the decisional spheres (Kelly, 1992, pp. 23-24), it was only under the subsequent Labor leadership of Bob Hawke, Prime Minister between 1983 and 1991, that the fully-fledged version of what came to be known as

neoliberalism (i.e. market liberalism) was embraced in the federal government (Pusey, 1991, pp. 31-37). As early as 1990, Whitwell (1990, p. 124) noted that “the 1980s have seen the triumph of economic rationalism”, and the latter would be achieved by “the unlocking of market forces”.

Propositions for reforming education systems in the direction of free-market regimes were put forward in the late 1970s. In Australia, for instance, Richard Blandy (1979, pp. 147-148, original emphasis) suggested either a model of “decentralised competition”, or a “more 'market' coordination of the services provided” for post-secondary education. In the 1980s, all or part of the market agenda was supported by powerful think tanks and business organisations, such as the Economic Planning Advisory Council (Fane, 1984, pp. 1-3) and the Business Council of Australia (Sinclair, 1986, pp. 24-29). At the same time, on the international stage, the OECD (1985, pp. 97-100; 1987, pp. 86-87; 1989, p. 114) insisted on the economic role of education and supported the development of market models of educational provision in a series of influential reports on education and the economy.

In that period, the most influential book advocating for market reforms in education was John Chubb and Terry Moe’s *Politics, Markets and America's Schools* (1990). Despite being primarily written about the education system in the US, “within a year of its release Chubb and Moe's book was being quoted more than any other text on schooling policy [...] including [in] Australia” (Marginson, 1997b, p. 130). The logic of Chubb and Moe’s argument was simple: schools and teachers would provide students with a better education if they were made to compete against one another. Therefore, a double regime of ‘consumer choice’ (for students and parents) and ‘competitive supply’ (between schools and teachers) must be introduced⁸². This simple argument has been used as an ideological justification for a wide range of educational reforms across many countries.

In education, marketisation reforms typically entail a double movement of (1) privatisation and (2) introduction of competition as a mechanism for regulating supply and consumption (Marginson, 1997a, p. 91). In recent years, the marketisation of education systems has come to be defined by the term ‘neoliberalisation’. Perry and Southwell (2014, p. 469) noted that the two dominant features of marketisation regimes

⁸² I provide a more detailed analysis of the neoliberal arguments for education in the following chapter.

are choice (through de-zoning and privatisation policies) and competition. Typically, “market competition, devolution and parent choice, and standardised testing, together promised to answer the needs for standards, autonomy, comparative information, accountability, hierarchy and control” in education (Marginson, 1997a, p. 144).

In Australia, the deployment of a neoliberal regime of schooling along those lines was politically constructed in the late 1980s. From the second half of the 1980s onwards, “the new policies in education were above all economic policies, and shaped by the market liberal reading of neoclassical economics” (Marginson, 1997a, p. 151). On 14 July 1987, Bob Hawke announced a momentous restructuring of the federal government. The education portfolio held by Susan Ryan, an arts graduate and former school teacher, was amalgamated into a ‘super ministry’ of Employment, Education and Training. John Dawkins, an economics graduate, took the leadership of this new ‘super department’ (Pusey, 1991, pp. 146-147). The following year, John Dawkins released *Strengthening Australia’s Schools*, a policy document outlining the direction that the Australian school system would take in the following years.

In this seven-page document, virtually all of the elements constitutive of corporate and market reforms in schooling are evident. The new ‘super minister’ called for (1) strengthening schools’ accountability (“we need to develop a method of reporting to the nation on how well our schools are performing against established goals”); (2) a ‘back to basics’ approach to knowledge and learning (“priority should be given to developing a framework for mathematics and science courses”); (3) a return of the importance of assessment (“systematic assessment must be a feature of the schooling process”); the development of a national curriculum (the different states and territories should have “a common curriculum framework”); the generalisation of standardised testing (“a common curriculum framework should be complemented by a common national approach to assessment”); and a regime of school choice relying largely on non-government schools (they must be “supported by the Commonwealth in order to provide a choice of schooling for parents”) (Dawkins, 1988, pp. 4-7).

Dawkins’s leadership in education at the federal level led to the transformation of education departments at the state and territory level from 1989 onwards. By 1992, “not a single education department was headed by an educator who had come up through the system” (Marginson, 1997b, p. 192). Market reforms were then introduced across the different educational jurisdictions, starting in New South Wales. The

autonomy of schools increased (as well as their accountability, at least for government schools); per-capita funding models were systematised; drastic ‘efficiency’ measures were introduced in the government sector; academically selective schools proliferated; competition for enrolments became the norm; and de-zoning reforms (where zoning policies for enrolment still applied) were established (Marginson, 1997a, pp. 214-217; 240-241; 1997b, pp. 192-195). The Hawke and Keating governments encouraged the growth of the non-government sector under this new regime of competition and its undifferentiated model of school funding. Between 1983 and 1996, the share of Commonwealth funding going to non-government schools increased from 52 to 56 percent (Connors & McMorrow, 2015, p. 25). At the same time, de-zoning policies also led to the flourishing of selective government schools, functioning as “cheap private schools for families able to win at the competitive examination game” (Connell, 2015, p. 183). At the university level, tuition fees were reintroduced after 1988 and higher education was progressively turned into an export industry, capitalising on the influx of international students (Connell, 2015, p. 182).

Retention rates to Year 12 more than doubled between 1982 and 1992 (Marginson, 1997b, p. 165). The apparent retention rate to Year 12 attained 58 percent by 1988 and 77 percent by 1992 (Marginson, 1997a, p. 185). This massive influx of high school graduates changed the profile of the academic competition for university entrance. Logically, the demand for tertiary education, the corresponding competition for selective university entrance, and the cut-off scores necessary for applying to sought-after university courses, all rose in that period (Marginson, 1997b, pp. 164-168). Between 1982 and 1987, the number of students enrolled in Year 12 increased by 59 percent (Marginson, 1997a, p. 184). It is in this context of intensified competition for university entrance that a significant number of schools started to implement the DP.

Australian schools started offering the DP after 1987, precisely when (1) market regimes—granting more budgetary freedom to schools and more income to some of them—were implemented, and (2) the competition for scarce tertiary admission places became even fiercer, following the massification of senior secondary education. The conditions were met for schools and students who could afford it to invest in the DP. The interest in the DP in Australia was sparked by a visit of the Vice-President of the IB Council of Foundation, David Sutcliffe, in 1986 (Hill, 2003 [1986]-a, p. 265). During his Australian tour, he met with the Liberal Senator Peter Rae, who added the

IB to the agenda of the 1987 Australian Education Council Conference (Rae was to chair this council from 1988 until 1990) (Bagnall, 1997, p. 133). The Australasian IB Schools Association was created in 1988 (Hill, 2003 [1986]-a, p. 265). Between 1988 and 1992, 12 schools decided to implement the DP, while only two schools had adopted the program in the 20 previous years (from 1968 to 1987)⁸³. Between 1988 and 1999, an average of two new schools included the DP in their curricular offering every year.

The 1990s were the decade of conquest of the Australian school market by the DP. In the meantime, the share of students enrolled in government secondary schools plummeted to 66 percent by 1995 (Campbell et al., 2009, p. 58). The Coalition governments of John Howard, in office between 1996 and 2007, were also headed by a faithful believer in neoliberalism and the benefits of market forces (Kelly, 2008 [1984], p. 201). As Connors and McMorrow (2015, p. 25) explain, “the Howard Government came to office with a policy commitment to promote choice and competition in schooling, particularly through the expansion of non-government schooling”. It removed the cap on the growth of the private sector and established subsidy schemes for non-government schools in 1996 (Welch, 2015, p. 53). In the meantime, “the bias of federal funding towards non-government schools was consolidated” (Campbell & Proctor, 2014, p. 226). A new funding regime was established in 2000, and its socioeconomic formula only applied “to those non-government schools that would thereby benefit financially” (Connors & McMorrow, 2015, p. 26). The new funding framework significantly reinforced the advantage of wealthy private schools (Watson & Liu, 2014, p. 176). Between 1996 and 2007, the share of Commonwealth funding going to non-government schools surged from 56 to 64 percent (Connors & McMorrow, 2015, p. 27). The intensifying academic competition between schools completed the restructuring of the Australian school system into a schooling market that is still in place to day.

Expectedly, the neoliberal model of regulation of the supply, funding, and consumption of education renewed the importance of academic competition, not only for students, but also for schools. Academic results could be used as promotional arguments for schools desirous to attract new students (and thus new income). The

⁸³ The first Australian school to implement the DP adopted it in 1978, and the second one did so in 1981. Throughout this historical analysis, schools which had implemented the DP but ceased to offer it afterwards have been excluded. As the initial procedure for implementing the DP became more demanding after 1986, the school withdrawal rate has remained low since that time (Hill, 2003 [1986]-a, p. 260). Only the schools where the DP became sustainably implemented were thus retained.

policy interest in schools' performance grew markedly from the 1980s onwards (Watson & Liu, 2014, p. 171), and the introduction of per capita funding models, as well as the generalisation of accountability regimes, led schools to use their academic results as instruments of educational governance.

In this context, the breakthrough of the DP in Australian education between 1988 and 1992 suggests that certain schools started looking for curricular alternatives, either as devices of *distinction* in a market model of competition for enrolments, or as instruments for maintaining and/or furthering their *academic superiority*. The DP could be used as an 'excellence pathway' for demonstrating a school's academic success. It could be useful as a new weapon in the school competition for a high reputation and 'good' (i.e. academically profitable) enrolments. In these schools, certain categories of students (and their parents) could also have an objective interest in the DP: the program could be made into a powerful instrument for traditionally advantaged students to *preserve or further their advantage* over new senior secondary education consumers, and thus maintain their hold on the social profitability of the education system despite the harsher competitive environment⁸⁴.

Predictably, out of the 26 schools implementing the DP in 1999, only two were government schools. The first one was Narrabundah College, an elite institution in Canberra where the DP was first implemented in 1978, and the second one was a South Australian government school, Glenunga International High School, where the DP was introduced in 1989⁸⁵. The only Catholic school was Mercedes College in South Australia, where the DP was on offer from 1989 onwards. The fact that 92 percent of the first Australian schools implementing the DP were non-government schools (with 88 percent of DP schools being corporate institutions) is not an accident. In the 1980s, corporate schools "were entering some of the best economic times in their history" (Proctor & Sriprakash, 2013, p. 230), and, with the election of the Howard government in 1996, the funding arrangement clearly favoured the non-government sector (Welch, 2015, p. 168).

⁸⁴ This possibility was afforded by the advantageous exchange value of the DP credential outlined in chapter seven and re-examined at the end of this chapter (see 'The exchange value of the DP credential' on page 273).

⁸⁵ The implementation of the DP in Glenunga International High School owes a lot to Greg Crafter, who was Labor Minister of Education for South Australia at the time. Crafter approved of the idea of the DP (Hill, 2003 [1986]-a, p. 265) and he later became President of the International Baccalaureate Organization (IBO) Council of Foundation (between 1997 and 2003). Glenunga remains one of the rare cases of 'international government schools' in Australia.

In fact, it was the *funding bias* favourable to the non-government sector that (1) led to the sustainable introduction of the DP in the Australian education market, and (2) gave the DP in Australia its elitist academic and social profile. Through the funding arrangements for the different sectors, a *structural inequality* in the possibility afforded to schools to invest in an alternative curriculum such as the DP was engineered, especially since implementing the DP was (and remains) an expensive investment (see ‘The retailer cost of the DP’ below). In that context, the DP was likely to be used as an instrument for the education-based reproduction of social inequality.

The economic and cultural background of students in the schools where the DP was available at the end of the 1990s suggests that the program was used by privileged social groups in elite schools. In the 26 schools offering the DP in 1999, 4 percent of students came from disadvantaged backgrounds (Q4) while 65 percent came from advantaged backgrounds (Q1) in 2014⁸⁶. If we combine these figures with the results presented in chapter six, it appears that the DP opportunity has largely been reserved for privileged social groups since its permeation of the Australian secondary education market in the 1990s. The Australian case validates Paul Tarc’s (2009, p. 105) global diagnostic: “since the late 1970s IB’s growth has been highly dependent upon neoliberal educational reform which has again benefited the privileged population over the ‘disadvantaged’”.

In summary, the DP entered the Australian schooling market in the high tide of the neoliberalisation of Australian education. It was precisely when (1) the school funding model unquestionably and significantly privileged non-government schools, and (2) the senior secondary educational competition involved a large proportion of all young Australians, that corporate schools and their students showed a marked interest in the DP and were able—not the least because of their large economic resources and their budgetary and school governance autonomy—to implement it. This suggests that an often forgotten feature of the neoliberal package in Australian education was the emergence of a *private curricular alternative* for university entrance and, more generally, the development of *curriculum competition*. School and student competition have been recognised as central features of ‘market reforms’; but in Australia, the

⁸⁶ Although the socioeconomic profile of schools in 2014 does not necessarily correlate with their profile fifteen years earlier, it remains very rare to see schools undergoing a complete transformation of the socioeconomic profile of their student population.

emergence of curriculum competition also took place in the midst of the neoliberalisation of the school system.

4. The twenty-first century and the success of the DP

The crucial role of inequalities between Australian schools in determining the social and academic profile of the DP in Australia—and thus its contribution to the reproduction of social inequality—did not cease at the turn of the twenty-first century. As explained in the previous section, the Coalition governments of John Howard, in office between 1996 and 2007, bolstered the structural advantage of non-government schools to the detriment of government schools. Between 1996 and 2007, almost three quarters of the growth in Commonwealth funding to schools went to the non-government sector (Connors & McMorrow, 2015, p. 27). The Howard school funding reforms were moulded in such a way as to preserve the benefits progressively accumulated by the non-government sector. The formula used in the last Howard funding framework contained a clause of “a no-disadvantage provision that allowed non-government schools to retain funding at least equivalent to that provided in the previous formula. By 2008 schools in this category had been ‘over-funded’ by \$2 billion over four years” (Campbell et al., 2009, p. 55).

Between 2001 to 2012, government schools lost an extra four percent of the secondary student population, and corporate schools gained almost three percent of the total secondary student population (Campbell & Proctor, 2014, p. 261). The portion of private school enrolments at the secondary level had gained almost 16 percent between 1975 and 2006, while the average socioeconomic background of students in private schools had remained stable, sitting more than 15 percent above the average socioeconomic background of students in government schools (Watson & Ryan, 2010, pp. 96-97). Between the early 1980s and 2007, “market reforms and the subsidisation of private schools (as a policy to promote choice and diversity) [...] worked to reinforce the privileges of the wealthy and residualise the poor” (Lamb, 2007, p. 36).

The share of secondary enrolments in government schools dropped by seven percent between 1993 and 2007, and the corporate school sector welcomed most of the transfer of enrolments from government to non-government schools in the process. By 2007, 39 percent of all secondary school students in Australia were enrolled in the non-

government sector (Campbell et al., 2009, pp. 58-59). Stephen Lamb (2007, p. 8) describes the 1998-2007 period as “the continued march of privatisation in Australian schooling”. And, whereas government schools received a percentage of the total net recurrent income for schools proportionate to their enrolment share in 2008 (i.e. an inequitable share if the different amount of resources necessary for educating students from different social backgrounds are taken into consideration), in *capital expenditure*, government schools (proportionally) received far less than their expected share based on enrolments (Welch, 2015, p. 169).

The reinforcement of the neoliberal regime under the Howard governments of the late 1990s and early 2000s supported the progression of the IB alternative programs in the Australian market. Not only did the recently-developed IB programs start being implemented in Australian schools⁸⁷; the annual rate of implementation of the DP also grew in the 2000s. Between 2000 and 2012, three new schools included the DP in their curricular offering every year (on average over the period). These newcomers in the field of DP implementation included nine government schools, most of which were either selective-entry or offering the DP as an ‘excellence path’ alongside their regular state curriculum for ‘normal’ students. It was only between 2002 and 2008 that Australian international schools took a moderate interest in the DP, with five of them integrating the DP to their curricular offering in that period (there had been only three international DP schools in Australia until then). Several schools inspired by alternative educational philosophies also started offering the DP at that time: after the first Australian Montessori school to implement the program in 1992, two other Montessori establishments and one Steiner school decided to include the DP in their curricular offerings between 2006 and 2011.

Even if the new ‘DP players’ of the 2000s were slightly less economically and culturally elitist than the population of Australian DP schools in 1999, they still basically excluded socioeconomically disadvantaged students. The schools that newly implemented the DP between 2000 and 2012 had, on average, 60 percent of their student population coming from the top socioeconomic quartile (Q1) and just about five

⁸⁷ The MYP, released by the IB in 1994, already counted five Australian schools on board by 1996 (despite the long and demanding school affiliation process), and the PYP, made available by the IB in 1997, permeated the Australian market at a rate of more than six schools per year between 2003 and 2014.

percent of their students from the bottom socioeconomic quartile (Q4) in 2014⁸⁸. Given the socioeconomic profile of students in the schools in which the DP was implemented, this alternative curriculum was bound to continue serving economically and culturally privileged families above all.

Between 2007 and 2013, the Labor federal governments of Kevin Rudd and Julia Gillard rebalanced the relative funding of schools enrolling students from unequally privileged backgrounds. Yet, they did not challenge the neoliberal foundations of educational governance. The Gillard government, in office between 2010 and 2013, placed a strong emphasis “on parental choice of school, through comparative data on the performance and resources of individual schools, available through its *MySchool* website from 2010” (Connors & McMorrow, 2015, p. 28). She commissioned a panel to review the Australian model of school funding, with the committee chaired by David Gonski (Watson & Liu, 2014, p. 176). The Gonski report—first systematic review of school funding since the Karmel report in 1973—revealed the extent of inequalities in the Australian schooling system. It showed that 73 percent of students in corporate schools came from the upper-half of the socioeconomic spectrum (Q1 and Q2) in the early 2010s and almost one in two (47 percent) were from the upper-class category (Q1 alone) (Gonski et al., 2011, p. 9). Independent research reached similar conclusions: 61 percent of students from the top socioeconomic quartile background attended private schools, whereas only 22 percent of students from the bottom quartile of the socioeconomic scale were in the non-government sector in 2009 (OECD, 2012, p. 84). In contrast, the government sector catered for almost 80 percent of the students from the bottom socioeconomic quartile (Kenway, 2013, p. 291).

Despite these conclusions, the ‘no loser’ provision that the Gillard government had decided to include in the new funding model undermined the potential of Gonski’s recommendations for limiting the contribution of schools’ unequal resources to the reproduction of social inequality. Moreover, the Gillard funding proposal still guaranteed that “the entitlements of schools that had already achieved relatively favourable resource standards for the students they enrol were given precedence” in the calendar of funding increases (Connors & McMorrow, 2015, p. 45). Between 2007 and 2011, the share of Commonwealth funding going to government schools certainly increased from 36 to 40 percent (Connors & McMorrow, 2015, p. 29), but the *relative*

⁸⁸ These values were obtained using *MySchool* data for the 2014 student population.

position of government schools in the hierarchy of school resourcing was not challenged.

The neoliberal reforms that have accumulated since the middle of the 1980s in Australian schooling have created (1) a drift of students from the public sector, (2) a comparative underfunding of government schools, and (3) a concentration of students needing extra resources in government schools (Kenway, 2013, p. 287). The Gonski report showed that government schools had progressively been residualised (Mills, 2013, p. 3; Welch, 2013, p. 209), with a simultaneous increase in inequality and difference in educational needs between sectors (Welch, 2015, p. 169). In the 2000s, the academic and social stratification of the Australian school system expanded (Ainley & Gebhardt, 2013, p. 13), and the socioeconomic stratification of the Australian school system seems to have accelerated since the early 2010s (Connors & McMorrow, 2015, p. 53). In that context, the re-emergence of selective government schools (Connell, 2013, p. 103) and the creation of selective streams or tracks within comprehensive schools can be read as a defence mechanism against the exodus of the most academic students towards corporate schools (Windle, 2015, p. 106). Virtually all of the nine government schools that implemented the DP between 2000 and 2012 fit one of these two categories. However, government schools serving students from less privileged backgrounds often lack the human and economic resources for successfully offering an alternative curriculum such as the DP. Comprehensive government schools generally do not have the chance to capitalise on the potential benefits that the DP could deliver if they implemented it.

It is precisely as a ‘defence mechanism’ or ‘showcase program’ that the DP has been used in most Australian government schools in which the program was offered in 2014 (see chapter six). Across the 11 government schools implementing the DP, the social origin of students remained largely advantaged (culturally and economically) in 2014. In these institutions, only 10 percent of the student population originated from disadvantaged backgrounds (Q4) and 16 percent from lower middle-class families (Q3) in 2014. Even though these schools were more socially inclusive than most other DP schools, they nonetheless mainly served students from advantaged backgrounds, as almost one in every two of their students (47 percent) came from the upper socioeconomic quartile (Q1) in 2014. The academic and social profile of the DP in government schools, less exclusive than in non-government DP schools yet still socially

and academically selective, can thus be partly explained by the regime of school choice and the funding model of the Australian school system. It is as a way of avoiding the ‘exodus of academic capital’ that the decision of several government schools to implement the DP can be understood. As a result, it is unlikely for the DP to become accessible to less academically, culturally, and economically advantaged students in these government schools, at least as long as the neoliberal structures of secondary education remain unchanged.

The functioning of selective government schools as inexpensive private schools—that is, as schools capable of enrolling a narrower range of academic and socioeconomic profiles than comprehensive government schools—and the relation between academic selection and socioeconomic selection is evident in the case of the three ‘selective academies’, that is, the highly academically selective government schools implementing the DP exclusively. Despite the low level of tuition fees in these *government* institutions, 64 percent of students belonged to the most advantaged socioeconomic quartile (Q1) while less than two percent of students came from the least advantaged socioeconomic quartile (Q4) in 2014. In other words, these academically selective *government DP schools* were even more socioeconomically selective than the average DP school (itself already highly non-representative of the population of Australian students) in 2014.

Based on its findings regarding the multi-dimensional inequality between school sectors, the Gonski report argued for a return to a needs-based funding model (Welch, 2015, p. 54). Yet, a striking feature of the Gonski episode was the utmost care taken by the Labor government to guarantee that private schools would not see their revenue from governments decrease under the new funding regime (Watson & Liu, 2014, p. 177). In other words, faced with privileges acquired by an elite segment of (secondary or combined) schools, the position taken by the government was to assert that no funding privileges would be challenged. The ‘Gonski episode’ demonstrated a bipartisan consensus between the only two political parties capable of being elected at the federal level regarding the funding of the various sectors of the school system (Connell, 2015, p. 194). Both implicitly agreed that the comparative privilege of elite non-government schools should be preserved. The role of the unequal distribution of resources for facilitating the reproduction of social inequality (to the advantage of students from privileged backgrounds) should not be challenged.

Since 2013, the implementation of the DP in new Australian schools seems to have run out of steam⁸⁹. There have been only three new schools implementing the DP between the end of 2012 and April 2016: one in 2013, one in 2014, and one in 2015. Interestingly, the socioeconomic profile of these schools was significantly less advantaged than the general population of DP schools in 2014: on average across these three schools, 28 percent of students came from the lowest socioeconomic quartile, while only 19 percent came from the highest socioeconomic background. These three recent implementations could be seen as the first step towards a more balanced and socially representative accessibility to the DP opportunity in Australia. However, I contend that it is likely to be a simple contextual situation, and that the conditions required for a socially inclusive distribution of the DP opportunity in Australia are currently not being met. In fact, no new government school has implemented the DP since 2009.

5. Conclusion: the DP and neoliberal education reforms in Australia

The social history of the DP alternative in a neoliberalising Australian school system is crucial for understanding the present-day contribution of the DP to the reproduction of social inequality. It is for that reason that I decided to provide this historical analysis after examining the current DP's contribution to the reproduction of social inequality in chapters four, five, and six. Historically, the economic and cultural selectivity of the DP in Australia, as well as its academic success, have been constructed via the structures that determined the academic and social profiles of the *schools* in which the DP was implemented. In other words, in addition to the role played by the structures of the DP curriculum (see chapter seven), it is the schools in which the DP came to be offered that largely determined the type of students it would enrol (mainly economically and culturally advantaged) and the outcomes they would obtain (mainly superior academic results). The DP was able to become a socially exclusive credential *because* the funding

⁸⁹ It must be borne in mind that it often takes two to three years between the moment a school is officially accepted by the IB organisation as a candidate to implement one of the IB programs and the moment the school is fully accredited for offering it (International Baccalaureate, 2015e, p. 2). Accordingly, the schools in which the DP was officially implemented in 2012 probably applied between 2009 and 2010.

and enrolment regimes of Australian schools and of the IB organisation made its implementation in disadvantaged schools extremely complicated.

The expansion of the DP curriculum and its contribution to the reproduction of social inequality in Australia have been highly dependent on neoliberal reforms that completely transformed the school system. These alterations have been imposed on Australian education in the last thirty years, supported by business organisations as well as both major political parties (Connell, 2015, p. 181). The typical model of neoliberal schooling, relying on school choice, academic competition, and privatisation, is particularly advanced in Australian education (Perry & Southwell, 2014, p. 467; 470). The success of the DP in Australia since the end of the 1980s represents the emergence of curricular alternative regimes in a market-based education system. “While the diffusion of this alternative curriculum could have taken various routes in Australia, neoliberal reforms have turned the program into a locus of closure permitting the insulated reproduction of educational advantage” (Maire, 2015b, p. 199).

This demonstration has implications for the theorisation of neoliberalism in education. Neoliberal policies have often been presented as supporting the idea of ‘choice’, where ‘choice’ refers to students choosing their school (and sometimes schools choosing their students). However, an often overlooked feature of neoliberal reforms is its encouragement of *curriculum choice*—theoretically available to all and realistically denied to many (as in the case of school choice). It appears that the crucial importance of standardised testing and the wish for a national curriculum, often included in the ‘neoliberal assortment’, do not apply to all curricular alternatives. The DP clearly contravenes the principles of a unique curriculum and standardised testing, yet the DP alternative was permitted to grow and flourish in the Australian education market, precisely when neoliberal reforms fighting for a ‘standardised’ education were being implemented. There is a manifest contradiction between the permissibility towards alternative curricula, primarily in elite schools, and the ‘back to basics’ and standardisation approach to the curriculum, generalised in the rest of the market.

The present analysis also offers an invaluable lesson for those willing to change the elitist position of the DP in the Australian school system and its contribution to the reproduction of social inequality by serving the conatus of middle-class and upper-class families. There are five major features determining the social and academic profile of the DP: (1) the cognitive and cultural demands of the DP curriculum (see chapter

seven), (2) the cost and procedures for implementing the DP in schools (see ‘The political economy of the DP in Australia’ later in this chapter), (3) the DP implementation regime (see ‘The retailer cost of the DP to schools’ in this chapter), (4) the funding model of Australian schools and the hypothetical ‘consumer choice’ regime (see ‘The neoliberal tide and the progression of the DP’ earlier in this chapter), and (5) the relation between DP and other curricula in schools (see chapters four, five, and six). If these five features remain identical to what they currently are, there is no doubt that the DP will remain an elitist program in Australia, serving mainly as an instrument for satisfying the conatus of reproduction of dominant social positioning of advantaged families. Drawing on these insights, I propose some recommendations for making the DP alternative an instrument susceptible to contradict the reproduction of social inequality in the last chapter. In the remainder of this chapter, I clarify how the political economy of the DP (i.e. its cost for schools and students, but also the exchange value of the DP credential) can explain its distribution in the Australian school system and, accordingly, its contribution to the reproduction of social inequality.

IV. The political economy of the DP in Australia

While the comparative learning demands of the DP curriculum contribute to explaining its social selectivity on *cultural* grounds, the economic model of the DP and the schools in which it is implemented contribute to explaining its social selectivity on *economic* grounds. In this section, I address the consumer cost of the DP for students and their families, its retailer cost for schools, as well as the exchange value of the DP credential.

1. The consumer cost of the DP in Australia

The most direct factor determining the economic selectivity of the DP in Australia is its ‘price’ for families willing to ‘purchase’ the DP experience. Interestingly, the structures of the Australian education system make the expenses directly associated with the DP program minimal compared to the indirect expenses corresponding to the enrolment fees in DP schools. Still, studying the DP can constitute a significant additional

expenditure for families: based on 2015 data, the fees charged by Australian schools to students enrolling in the DP program ranged from \$0 to \$3,850. There were many schools where the DP program was not directly economic selective: approximately one third (32 percent) of Australian DP schools offered their students the option of enrolling in the DP for free⁹⁰. However, government DP schools were overrepresented amongst the schools charging high premium fees for studying the DP: four out of the 10 schools with the highest DP fees were from the government sector. All of the government schools for which data were available (eight out of 11) charged their students a DP fee. In other words, the DP was systematically economically selective at the program level in institutions that were not economically selective at the school level. And even if this ‘DP premium’ in some cases included the costs of the examination fees, it more often stood as an additional expense to the DP examination fees that students and their families must pay. The specific cost of the DP program thus constitutes a first layer of economic exclusion for the families least endowed in economic capital.

Candidates for the DP credential also have to pay fees for sitting the IB-designed examinations. While some schools include these fees into an overall tuition fee package for Year 11 and 12 students choosing the DP, the vast majority of students pay the assessment fees on top of their annual tuition fees at school. Students are expected to pay a candidate registration fee to participate in the examination session, plus a ‘subject fee’ for each of the six groups and three core subjects selected by the candidate for the examination session. As of 2016, the registration fee was \$184, the subject group fee \$126, and the ‘core’ fee \$157 (International Baccalaureate, 2016a), for an overall package of \$1,097 for participating in a complete examination session. In Australia, this amount is hardly a problem for most upper-class and middle-class families; however, it is sufficient to deter many disadvantaged families from finding the program affordable (even if their offspring attends a school with no tuition fees). Accordingly, a genuinely economically inclusive DP policy in Australia would work towards removing this economic hurdle to the participation of students from disadvantaged backgrounds.

The cost that predominantly excludes students from families with less economic capital from being represented fairly in the DP in Australia is no doubt the tuition fees for enrolling in schools offering the DP program. In order to calculate the average

⁹⁰ There were missing data regarding their DP fee policy for seven out of the 60 DP schools.

annual tuition fees for senior secondary students in DP schools, I summed the annual tuition for Year 11 and Year 12 and added all compulsory fees upon enrolment (I excluded all optional fees) before dividing the total by two. As some schools have additional enrolment costs not disclosed in their prospectuses, brochures, or on their website, it is likely that the values presented here are underestimated. Nevertheless, the approximations I have calculated suffice for the purpose of the present analysis. Using this method, I was able to determine the tuition fees of all DP schools but one, for which a proxy value was calculated using auxiliary information⁹¹.

Out of 60 DP schools in Australia in 2014, eight did not charge tuition fees to their students (based on 2015 data): these are the eight non-selective government DP schools. This group of free schools was followed by the selective government academies, for which families had to spend \$600 on tuition costs in 2015. Beyond these 11 schools, *all other institutions charged more than \$7,500 per year*. In fact, the annual tuition fees ranged from \$7,803 to \$35,721. The only Catholic school to implement the DP charged its senior school subscribers \$15,888 per annum in 2015. Out of the 48 corporate schools to offer the DP, it cost a student's family more than \$20,000 on average for a year of senior secondary schooling. Taking the entire population of DP schools, the mean tuition fees stood above \$17,000 for a 2015 enrolment. The extent of the economic selectivity for accessing the DP in Australia is flagrant, and it assuredly has determined the socioeconomic profiles allowed to be represented in the DP in Australia.

Nearly three quarters (72 percent) of all DP schools in Australia charged annual senior secondary tuition fees in excess of \$10,000 in 2015; almost six out of 10 (57 percent) billed their DP students more than \$15,000 per annum; and practically half of them (47 percent) levied above \$20,000 for an academic year. Needless to say, “the DP is, in the majority of cases, a luxury product in Australia” (Maire, 2015b, p. 201), out of reach for most families—even those generally considered as ‘middle class’. Based on the current cost of being educated in non-government DP schools in Australia, it is only in the government sector that the DP seems to have the *potential* of being non-socially discriminating on economic grounds. Yet, it would be a mistake to associate

⁹¹ The tuition costs for 2015 were unavailable for the most expensive DP school. As a result, I estimated the 2015 fees based on the school's 2014 rate (\$34,020), to which I applied the tuition fee increase that took place between 2013 and 2014 at that school (five percent). The 2015 estimate is thus \$35,721.

‘government DP schools’ with ‘social inclusion’. The absence of overt economic selection to access these schools does not mean that their student population is representative of all economic backgrounds. In fact, if we consider the percentage of students from different socioeconomic backgrounds in the 11 government schools implementing the DP, it appears that there were, on average, almost half (47 percent) of students in a government DP schools who came from advantaged families (Q1) in 2014. On the other hand, the inferior half of the socioeconomic spectrum (Q4 and Q3 combined) made up barely more than a quarter (26 percent) of all students in the average DP government school. If the government sector has the *potential* to make the DP opportunity economically inclusive in Australia, this possibility has failed to materialise at this point.

An indirect effect of this average tuition fee policy in DP schools is its related cultural selectivity. While the demands of the DP curriculum contribute to determining DP students’ amount of educationally-relevant cultural capital, the enrolment policies of DP schools also determine the cultural capital of DP students. Teese and Polesel (2003, p. 121) remind us that “fees screen parents not only on financial lines. They favour, even if they do not always secure, parents with a commitment to academic success, parents whose values and attitudes will reinforce the instructional and cultural action of the school”. Economic selectivity pools the educationally-relevant cultural capital present in a school and contributes to the collective academic advantage that economically exclusive institutions have over non-economically selective schools⁹². Accordingly, the objective economic and cultural capital requirements for accessing DP schools are an important determinant of the social distribution of the DP opportunity to students with different amounts of economic and cultural capital in Australia. Since DP students’ academic and social profiles contribute to explaining their academic success, they indirectly help in explaining the overall DP’s contribution to the reproduction of social inequality in Australia.

⁹² It must also be remembered that selective government schools, because of the structure of their selection mechanisms, tend to pool cultural capital and exclude disadvantaged students. These schools generally come to serve advantaged and upper-middle-class families above all (Teese & Polesel, 2003, p. 122).

2. The retailer cost of the DP to schools

Students who study the DP are not the only ones to be charged for their involvement with the DP. While students and their families pay for trying to obtain the DP credential, schools need to spend money for having permission to offer the DP program and for being entitled to continue implementing it.

The affiliation policy for the Diploma Programme has four main features: (1) it is expensive, (2) it is a complicated and generally long process, (3) schools are *self-selected*, and (4) schools are allowed to implement the DP alongside the regular curriculum. These four features—especially the direct and indirect costs of the program—contribute to making the DP an economically selective program at the school level in the Australian context. Since 2014, the currency used by the IB organisation across the Asia-Pacific region (including Australia) has been Singaporean Dollars. Using an exchange rate of 1 Singaporean dollar for 0.97 Australian dollars (valid on 11 July 2016), a school wishing to implement an IB program first has to disburse a non-refundable ‘application for candidacy’ fee of \$5,610 (International Baccalaureate, 2015e, p. 1)⁹³. After being accepted as a candidate, it generally takes between one and three years for the school to become formally authorised as a certified IB school. Meanwhile, the school is charged a non-refundable \$12,614 per year spent as a ‘candidate school’ (International Baccalaureate, 2015e, p. 2). The application fee and candidate fee provide the school with a range of services, which help them with meeting the requirements for becoming an IB school. Various other fees also exist for schools looking for additional support, such as an evaluation visit fee or a consultancy fee.

Once the school is accepted and officially becomes an ‘IB World School’, it is required to pay an annual school fee for the IB program(s) the school offers. For 2015-16, the annual school fee was \$12,537 for schools implementing the DP alone (with additional fees for each other program offered) (International Baccalaureate, 2016e). This fee policy has clear implications for the categories of schools likely to consider implementing the DP. Only schools with a healthy financial situation will commit to spending over \$10,000 every year in annual IB implementation fee alone. Therefore, it comes as no surprise to find wealthy non-government fee-paying schools over-

⁹³ The ‘\$’ sign is used for Australian dollars.

represented in the landscape of DP schools in Australia. As I have argued earlier in this chapter, it is the comparative overfunding of elite fee-paying corporate schools that has made it possible for them to afford the DP.

This annual fee also mechanically advantages large schools. The 60 Australian schools offering the DP in 2014 enrolled 1,128 students on average (in full-time equivalent). More than six out of 10 DP schools (62 percent) had more than 1,000 students, and there were more DP schools enrolling above 1,500 students than DP schools with less than 500 students (13 versus 10). In other words, it is principally in large institutions, generally offering both primary and secondary education (78 percent of DP schools were in that category in 2014), that implementing the DP is a financially viable option (partly because of the economies of scale made in these schools).

The structural advantage of large schools for implementing the DP alternative has implications for the socioeconomic accessibility of the DP opportunity. Following the neoliberalisation of Australian schooling, school size has become increasingly correlated with the socioeconomic profile of enrollees (at least within the government sector). For instance, until the early 1980s, school sizes were similar in different socioeconomic areas of Melbourne and its suburbs. However, by 2004, the government sector was highly segregated in Melbourne, and schools in high-socioeconomic areas were almost 80 percent larger than schools in low-socioeconomic areas (Lamb, 2007, p. 18). More generally, since students in larger schools also tend to come from more socioeconomically advantaged backgrounds than students in smaller schools (Perry & Southwell, 2014, p. 476), the economic selectivity of the DP is also generated by the structural disadvantage facing small schools for paying the annual implementation fee.

The structural disadvantage for small schools is, however, not reducible to the annual implementation fee. Professional development activities are a very good source of revenue for the IB, but another significant expense that can make the IB programs “prohibitive” for some schools (Leaton Gray, Scott, & Auld, 2014, p. 69). A school needs to meet extensive professional development criteria before being accepted as an ‘IB school’: teachers willing to teach an IB program must attend a workshop in their subject, and each workshop is billed at several hundreds of dollars. In addition, the Head of school, Diploma coordinator, Theory of Knowledge teachers, and Creativity, Activity, Service coordinators must attend additional workshops for overseeing the implementation of the program and the ‘DP core’ (International Baccalaureate, 2010b,

pp. 2-3; 8). Overall, there are ongoing economic obligations associated with implementing the DP that are likely to restrict further the range of schools financially able to consume the DP. This fact also leads to the selectivity of DP candidates on economic grounds, as government funding for schools generally does not provide for such expenses, which have to be funded by tuition fees in most non-government DP schools.

3. The exchange value of the DP credential

If schools have several reasons for implementing the DP (see ‘The neoliberal tide and the progression of the DP’ in this chapter), students also need to have an objective interest in the DP to enrol in the program. Here, too, the neoliberal architecture of the Australian education system plays a role. By placing academic performance at the core of the educational agenda, neoliberal reforms have reinforced the subjective importance of academic competition in the educational experience of students. They are more likely to adopt an instrumental approach to their education, focusing predominantly on the credential function of education. In such a context, the consumption of the DP is hard to understand if one does not pay attention to the *positional utility* students can derive from owning the DP credential (i.e. its *academic profits* in terms of scarce and competitive university applications). Accordingly, the exchange value of the DP can partly explain the DP’s contribution to the reproduction of social inequality.

First, the fact the all major universities in Australia recognise the DP as a valid qualification for university application is a crucial factor for attributing an *exchange value* to the DP credential. Without this recognition, the DP could hardly function as a currency in the academic world. As mentioned in the previous chapter, students’ DP scores are converted into an ATAR rank without any scaling procedure. For converting non-DP students’ results in their Year 12 subjects into their ATAR rank, however, the various states and territories all use scaling instruments. For instance, the South Australian Tertiary Admissions Centre (SATAC, 2016) explains that “scaling is the process by which we adjust the raw scores for a given subject to allow the results for that subject to be fairly compared with the results of any other subject”. The relevant educational authorities consider that the average academic level of students in a given subject can be used to scale the subject up or down in comparison to the average

academic level of students in other subjects. They thus assume that the cultural demands of different subjects not only can, but should be compared to one another. Without delving into the arbitrariness of these assumptions any further, it is enough to know that “the Scaling Procedure is owned and defined by the universities” (SATAC, 2016), which thus retain the power to define the comparative *academic value* of different subjects and students.

The absence of scaling for DP students’ score is a determining feature of the *exchange value* of the DP in Australia and, thus, of the interest students can have in opting for the DP as their senior secondary credential. If students with identical cognitive and cultural skills were to obtain superior ATAR ranks with their DP results rather than their state examination results, these students would have an objective interest in choosing the DP over the state curriculum as their pre-university qualification. Interestingly, this is *precisely* one of the main reasons many students give for enrolling in the DP in Australia. In the questionnaire that was distributed to them, I asked the 147 Year 12 students involved in this project to cite up to three main reasons for having enrolled in the DP, and 137 provided at least one reason. Amongst these students, almost *one in three* (31 percent) explained their DP enrolment by a direct reference to the *comparative advantage* of the DP ATAR conversion, the scoring system, and the absence of score scaling in one of their answers⁹⁴.

Most of the students who mentioned the comparative advantage of the DP over state curricula in terms of ATAR did so as the first reason on their list, and not all students provided more than one reason. Students’ answers clearly demonstrated the importance of the exchange value of the DP in comparison to the other curricular alternatives available for explaining the DP ‘consumer demand’ at the student level. In addition, this result clearly reveals the *instrumental use* of alternative a senior secondary certificate such as the DP. Students’ openness in revealing the instrumental motives behind some of their educational ‘choices’, their negative perceptions of scaling procedures, and, above all, their use of a comparative (i.e. positional) framework of reflection, are all evident in their responses. DP respondents chose the DP because “it scales well”, because it has a “high ATAR conversion rate”, because it gives them a “higher ATAR”, because they benefit from a “better possibility of gaining a

⁹⁴ This does not imply that there were only one third of DP students enrolling in the DP for that reason. It simply outlines that the exchange value of the DP was *one of the most important reasons* for choosing the DP for a third of DP students.

high ATAR” as “it converts favourably to the ATAR without scaling”, because the DP “converts well to ATAR at UTAS [University of Tasmania]”, because “the conversion from IB to ATAR is very high”, and because “IB has a really good ATAR conversion rate, which opens doors at the end of high schools”. In line with the analysis of the conversion tables provided in chapter seven, DP students confirm that the value of the DP credential for unlocking future educational opportunities is not only high: it is also *advantageous* (i.e. *profitable*).

If the advantageous conversion between DP scores and ATAR ranks is mentioned as one of the principal reasons for DP students to enrol in the program in the first place, it is reasonable to assume that the DP probably does have a lucrative ATAR conversion system *for certain student profiles* (the cognitive and cultural profiles represented in the DP). In this case, ‘lucrative’ means that DP students often consider that their ATAR would have been inferior if they had opted for the state curriculum instead of the DP. Given the superior cognitive and cultural demands of the DP curriculum (see chapter seven), it is likely that the profitability of the DP-ATAR conversion rate exists mainly for students comfortable with the academic dispositions required for succeeding in most DP subjects, i.e. students with a cultural capital that can be mobilised across a wide range of subjects.

How can this widespread opinion of the comparably advantageous exchange value of the DP be reconciled with the assumption held by the Universities Admission Centre (the authority in charge of decreeing the annual exchange rate between DP score and ATAR) that their conversion table is fair to DP and non-DP students? Either a large proportion of DP students are mistaken in their assessment of the comparative advantage of the DP, or (at least some) DP students are indeed given a structural advantage via the DP-ATAR conversion mechanism.

Given the collective knowledge accumulated in DP schools, by DP teachers who can then communicate this knowledge to prospective DP students, it is plausible that Australian DP students do not suffer from a generalised collective delusion and are rather quite skilled at evaluating the relative value of different curricular alternatives. In fact, a fine understanding of the inner working of the educational system and its recompensing sites is *precisely* one of the most useful kinds of educationally-relevant cultural capital, and I demonstrated in chapter six that DP students generally possess a large amount of educationally-relevant cultural capital. The acuteness of their

assessment of the relative value of the DP would be consistent with their overall cultural resources for grasping the positional functioning of the school system.

It is evidently impossible to ensure that DP students would have obtained the same ATAR had they chosen the state curriculum, as the cognitive and cultural demands and assessment principles are not perfectly comparable in the different curricular alternatives (see chapter seven). There is a startling arbitrariness in the willingness of Australian higher education authorities to assert the numerical comparability of DP graduates and state certificate graduates despite the flagrant incommensurability of these curricula, especially in a neoliberal system in which supposedly standardised results are of crucial importance. As I outlined in the previous chapter, the decision to calculate a direct conversion table between DP scores and ATARs is a necessarily biased procedure. On the other hand, the probable structural advantage inscribed in the DP-ATAR conversion table can explain Catherine Doherty's (2012, p. 185) claim that the exchange rate between DP and ATAR is a crucial stake for the IB organisation, as it determines the comparative value attributed to the performance of its students. Since the relative exchange value of incommensurable academic certificates can only be arbitrary (partially at least), one can understand why the IB organisation would have "lobbied actively around these conversions of IB scores to protect their 'gold standard' reputation" (Doherty, 2012, p. 185).

Drawing on the curriculum analysis of the previous chapter, it is probable that the DP conversion table structurally advantages students most at ease with the generic cognitive and cultural demands of secondary education. Through this arbitrary increase of the exchange value of the DP in comparison to the state curricula, the DP becomes a *strong currency*. And if policies can function as structuring acts of power relations (Ball, 1993, p. 13), the policy regime of DP-ATAR conversion is clearly a rule that regulates the relations of academic rating (that can be converted into future educational opportunities) between DP students and non-DP students. The existence of a direct conversion table and the numerical terms of this conversion seem to indicate, at least in DP students' opinion, that it can ease their acquisition of high ATAR ranks. Therefore, given that most of these students come from advantaged socioeconomic backgrounds, the DP-ATAR conversion table contributes to turning the DP into an instrument of reproduction of social inequality in Australia.

4. Conclusion

In this chapter, I have provided complementary elements for explaining the economic and cultural selectivity of the DP, the superior quality of the DP opportunity, and thus its contribution to the reproduction of social inequality in Australia. While the previous chapter outlined the role of the DP curriculum in the social selectivity of the DP on cultural grounds, I have concluded this chapter by demonstrating the role of DP schools' profile in making the DP opportunity socially exclusive on economic grounds. The tuition fees required for enrolling in the vast majority of DP schools prohibit a fair representation of students from economically disadvantaged backgrounds in the DP. In order to make sense of the landscape of Australian schools that have progressively come to implement the DP, I have articulated a brief social history of the Australian school system and described the permeation of the DP in the secondary education market. The social topography of the DP and the quality of the DP opportunity have both been determined by the neoliberal reforms that have reshaped Australian secondary education since the middle of the 1980s. In the following chapter, I summarise all the results I have presented in chapters four to eight. Building on this analytical overview, I then examine some theoretical implications for studying curricular alternative regimes in neoliberally-shaped education systems.

Chapter Nine

The DP and the Reproduction of Social Inequality in Australia: Theoretical Implications

The investigation of the DP's contribution to the reproduction of social inequality in Australia is drawing to a close. Before I conclude this study, however, it is important to tease out some of the theoretical and practical implications that can be inferred from the analysis. In the final chapter, I will sketch some policy recommendations for making the DP opportunity an instrument capable of partially offsetting the school-mediated reproduction of social inequality in Australia. In the present chapter, I explicate some theoretical progress made possible by the insights we have accumulated up to this point. I first summarise the DP's contribution to the reproduction of social inequality in Australia. I then ponder over the theoretical issue of curricular alternatives under an educational choice regime. I continue by developing a more general argument regarding consumer choice in education. Finally, I outline a theoretical analysis of neoliberal education reforms and consider the specificities of the Australian case as a contingent configuration.

I. The DP and reproduction of social inequality in Australia

In the first chapter, I set the scene by introducing the framing lines of a theory of the education-based reproduction of social inequality. In the second chapter, I introduced the DP program as a paradigmatic case of *alternative curriculum*, in order to problematise its position within the educational structures determining the reproduction social inequality in Australia. In the third chapter, I addressed some of the questions of social philosophy, epistemology, and methodology that underpin any reflection about the contribution of the DP to the reproduction of social inequality in Australia. Taken together, these three chapters represent the foundations of the empirical analysis I

developed in chapters four to eight. In the fourth, fifth, and sixth chapters, I proceeded to methodically *describe* the DP's contribution to the reproduction of social inequality in Australia, by examining the quality of the DP opportunity (i.e. the DP outcomes and the DP learning and academic performing conditions) and the social recruitment for accessing the DP opportunity. In the seventh and eighth chapters, I attempted to *explain* the picture that emerged from this description. To that effect, I examined the cultural and economic determinants of the DP's contribution to the reproduction of social inequality in Australia, as well as the sociohistorical genesis of the current situation.

In the Australian context, the IB Diploma Programme is part of a broader mechanism of education-based reproduction of social inequality. The DP conforms to the more general observation of the “unequal distribution of educational opportunity by social origin” made by Pierre Bourdieu and Jean-Claude Passeron (1979 [1964], p. 6) for the French school system more than 50 years ago. The educational opportunity to study the DP is unequally distributed between social groups, and the educational opportunity to gain academic and occupational benefits from the DP education is just as socially discriminative. In this context, the DP occupies simultaneously (1) the upper rungs of the academic hierarchy at the senior secondary level and (2) the upper rungs of the socioeconomic hierarchy.

The IB organisation, its founders, and its leading figures have often asserted the progressive ideals underpinning the whole IB venture. According to them, the education provided by the IB should contribute to making the world a more just and peaceful place⁹⁵. In its 2013 annual review, for instance, the IB (2014a, p. 1) recalled its ambition to “create a better world through education”. In that year, the organisation also released a 16-page *Education for a better world* document, outlining its ethically-driven mission statement and its contribution to making a better world based on the schools and students it serves (International Baccalaureate, 2013b). Unfortunately, the DP supposed contribution to making a better world seems at odds with its contribution to the reproduction of social inequality evident in Australia. At least in this country, the laudable IB ambitions seem to have been “caught up in the growing marketization of schooling” (Whitehead, 2005, p. 4).

⁹⁵ For instance, in the foreword to the book compiling the discourses and addresses of George Walker, director general of the IB organisation between 1999 and 2005, Greg Crafter (then president of the Council of Foundation of the IB organisation) explained how the director general believed in the power of the IB to contribute to change the world because “educational opportunity is fundamental to building a better world” (Walker, 2002, p. 7).

A more radical line of interpretation of the development of the IB organisation would see the success of its programs as not only ‘caught up’ but highly *dependent* on the neoliberal agenda applied to education systems across the world over the last 30 years. According to Tarc (2009, p. viii), neoliberal policies have strengthened the position of the DP as an educational product, but weakened the humanist and progressive ideals of its founders. Given the particularly striking neoliberalisation of education in Australia, it is no surprise to see that the IB ideals have become undermined by its use for purposes of the social reproduction of advantage by privileged social groups. Interestingly, the conclusions I have proposed regarding the social topography of the DP were also put forward by Paul Tarc (2009, p. 23), but about IB programs at the global (rather than national) level. In other words, he noted the inequality of access to the IB curricula *between* countries or regions.

Arguably, the appropriation of the DP by privileged social groups has not been the result of a conscious and deliberate decision made by culturally and economically rich families to make the DP socially exclusive. There generally is no direct and malevolent intention to strip poorer people from educational chances by excluding them from the DP. It is simply in the encounter between (1) the positional (i.e. zero-sum) structure of the distribution of sought-after educational chances, and (2) privileged families’ pursuit of their own interest based on their social reproduction conatus, that they become the dominant users of the DP in Australia. Their conatus is often materialised through the practical attempt to maximise the educational and occupational benefits of their educationally-relevant resources—principally cultural capital and economic capital, but also social capital.

Yet this conatus is not, in itself, the apanage of privileged families. The vast majority of middle-class families, and probably most disadvantaged groups, also strive for maintaining or enhancing their social position. Therefore, it is only because the structures of the Australian education system advantage the social properties of privileged families that the DP can be used instrumentally to support their striving for the intergenerational reproduction of their privilege. Disadvantaged families are also moved by a conatus towards the social-positioning function of the school system; however, their resources (i.e. capital endowments) are less rewarded in the education system (i.e. they are less educationally relevant). Their attempts to improving their social positioning via the education system are simply less successful. It was thus at

least as necessary to examine the structures of the Australian education system for grasping the program's position within the system of reproduction of social inequality as to analyse the comparative specificities of the DP.

Generally speaking, it is important to note that the logic of reproduction of social inequality through education (i.e. families consuming education to the benefit of their lineage) does not originate from morally condemnable choices made by students and families. It is the result of a struggle between different social groups, endowed with unequal powers for shaping the education system in a way that provides them with the best educational (and then occupational) opportunities. In other words, the reproduction of social inequality is the consequence of the antagonistic play of unequally powerful conflicting interests, *mediated by* the structure of education and its relation to the distribution of opportunities in society. This statement is crucial for reformers wishing to challenge the ongoing reproduction of social inequality via education.

It is far more realistic to aim for a change of policy arrangement than to wish for a morally-driven or imposed change in people's preferences. Wanting to change people's preferences or practices while forgetting to address the social configurations that led them to form these preferences or engage in these practices in the first place is bound to be a vain wish. It is arguably a largely ineffective move to try to change what the 'self-interest' of social agents is made of, without changing the objective conditions that have led them to hold specific interests, for it is precisely these objective conditions that largely determine people's interests. Accordingly, I contend that the most effective stance for actually challenging the 'inequality-reproductive' use of the DP in Australia is to reform the *structures* of its supply and consumption rather than naively encouraging people not to act against their preferences and self-interest. The following chapter offers some policy reform suggestions to counteract the use of the DP for the reproduction of social inequality.

It must also be remembered that the privileged classes do not have a monopoly over the use of the DP in Australia. There are some relatively disadvantaged schools in which the DP is implemented, and one of these schools was included in the questionnaire sample. There are disadvantaged students enrolled in the DP program, and there are even disadvantaged students graduating with the DP credential who obtain better academic results than what could be expected from them (based on their social origins and educational trajectory). Nevertheless, as I have demonstrated throughout

this analysis, their share of the total population of DP students is minimal, which leads the DP to contributing far more to the reproduction of social inequality than to a fair distribution of life chances (mediated by a balanced distribution of chances of academic success across social groups). In summary, the DP *statistically* contributes to the reproduction of social inequality on economic and cultural grounds.

I have focused on students' inherited economic and cultural resources and their role in the social distribution of the DP opportunity. Although I have mentioned the importance of geographical factors, and dealt with the distribution of the DP opportunity along gender and ethnic lines in passing, my research design did not focus on the role of other social properties in the distribution of the DP opportunity. In particular, I chose (for pragmatic reasons) not to cover the possible role of social capital in the distribution of the DP opportunity. Analysing how students and their parents' contacts and networks shape the social distribution of the DP opportunity in Australia would be a welcome extension of the present project. In fact, it would be particularly relevant in the case of the DP, since curricular alternative regimes suppose a choice, for which connections can prove helpful in gathering the information necessary for making the 'right' choice.

At the same time, while I have analytically distinguished the economic capital discrimination from the cultural capital selectivity of the DP in Australia, it goes without saying that, in reality, these two dimensions are interwoven and intricate. There are certain economic rewards associated with the accumulation of cultural capital, just as much as the accumulation of economic capital generally leads to a certain accumulation of cultural resources. This is also true of the relations between economic, cultural, and social capital. The different types of inherited and educationally-relevant resources that students benefit from for accessing different educational opportunities determine the efficacy of each one of these resources. And educationally-relevant resources are particularly important when the dominant allocation mechanism is a regime of choice, as it is the case (by definition) with educational alternatives.

II. On regimes of curricular alternatives

In chapter two, I conceptualised the presence of the DP in Australia as a paradigmatic case of regime of curricular alternatives. Although it may have been imperceptible in the following chapters describing the empirical results of the research, the definition of regimes of curricular alternatives I proposed was part of a grid of concepts that worked conjointly for grasping the contribution of the DP to the reproduction of social inequality. I can now return to these initial concepts and work towards refining their explanation.

1. Curricular alternatives: some conceptual developments

It is only the conceptual apparatus deployed in the first chapters of the thesis that has made the empirical moment of the analysis possible. The DP ‘object’ could not have been grasped conceptually if the common sense terms and notions generally used to discuss it had simply been imported into the language of research. I had to elaborate other concepts to fit the grammar of the reproduction of social inequality in education.

The first concept I have relied on is ‘DP opportunity’. This concept has the great benefit of simultaneously (1) alluding to the DP as one educational possibility amongst several options, and (2) constantly reminding us that the DP outcomes yield benefits and unlock new possibilities. This double status explains why the concept of opportunity is so relevant in the discussion of the education-based reproduction of social inequality. Once I had adopted a terminology centred on the concept of ‘opportunity’, it became easier to reason in distributional terms and conceive of the relations between the quality of the DP opportunity and the quality of other opportunities.

Of course, this conceptual device rested on a preliminary theory of the place of education systems in the reproduction of social inequality. In the tripartite model I outlined in chapter one, it is the (1) occupational value of credentials, (2) the scarcity of the most sought-after credentials and their competitive allocation, and (3) the social distribution of educational opportunities for being a strong competitor, that determine the position of the education system in the system of reproduction of social inequality. It is only within this conceptual apparatus that the two dimensions of the quality of an

‘educational opportunity’ (i.e. the quality of the educational outcomes and the quality of the educational experience) make sense. At the same time, the concept of DP opportunity also permitted the development of a logical analysis of inequality, by combining the study of the *quality* of the DP with the study of its *social topography*.

The concept of opportunity is certainly useful for analysing the role of credentials in the distribution of life chances, but it is insufficient for grasping the specificities of the DP. I was thus led to deploy a new concept for grasping the rather uncommon position of a hybrid educational entity such as the DP in education systems. The most potent concept I have found for capturing these specificities is ‘regime of curricular alternatives’.

The usefulness of the concept of curricular alternatives for the study of school curricula and credentials depends on its defining features. In this work, I have defined ‘curricular alternatives’ based on two core properties. First, for a regime of curricular alternatives to exist, the two (or more) programs made available to students must be coexisting but distinct objects in a unidimensional universe. In other words, while different curricular alternatives are separate from one another, they are genuine alternatives only if they are made commensurable (when both alternatives can be converted to an ATAR rank, for instance). It is only if curricular alternatives can be substituted for one another (at least theoretically) without completely altering the framework of analysis that two or more programs can be considered as alternatives. Second, the concept of curricular alternatives makes sense only if they are distributed according to the logic of ‘choice’. It is only if two or more alternatives (for obtaining a given outcome) are theoretically available for students to choose between, that the term ‘alternative’ is appropriate.

Formulated as such, it becomes evident that the existence and status of curricular alternatives is fully dependent on specific educational structures of provision and allocation of educational opportunities. Choice regimes, as much as the commensurability of the alternatives under consideration, are socially constructed types of relations between educational programs and between students. If these socially constituted educational structures were transformed, the concept of regimes of curricular alternatives would certainly lose most of its relevance. The two essential features that I have argued define curricular alternatives also answer the question of the general possibility of integrating ‘alternatives’ into the category of ‘streaming’ (i.e.

considering the DP as no more than a particular case of streaming). As my definition suggests, regimes of curricular alternatives are irreducible to tracking (or streaming) questions.

Even if the reason for using the term ‘DP alternative’ may not have been readily evident in the previous chapters, both of these features have had very concrete implications for the explanation of the DP position in the system of reproduction of social inequality (see chapters seven and eight). For instance, the significance of the DP conversion tables can only be understood if we realise that the question of commensurability is at the core of regimes of curricular alternatives. Similarly, it is above all because it is delivered under a regime of formal choice that the DP alternative in Australia can be used to serve the conatus towards the intergenerational reproduction of social inequality. Choice regimes make the expression of unconscious or conscious strategies possible (the expression of which is determined by the different usable resources possessed by the student and her family), whereas directive models of allocation limit the possibilities for educational strategies to secure privileged educational opportunities. Choice regimes open up spaces for the expression of individuals’ dispositions in ways that other allocation regimes do not, and this consideration justified the decision of asking students what reasons lay behind their enrolment in the DP.

The broader usefulness of this research partly rests on the empirical use of the concept of curricular alternatives. Arguably, the particular case of the DP in the Australian education system is of limited interest in itself. It is primarily the modes of analysis I have used for grasping the complexity of the DP’s contribution to the reproduction of social inequality in Australia that can offer an original reading of the relations between educational structures and students’ practices. In that regard, the most useful way of thinking about the DP in the context of my study has been to see it as a paradigmatic case of alternative curriculum in a neoliberally-driven school system, and to draw some of the logical implications emerging from this theoretical contextualisation.

It goes without saying that the DP is not the only existing alternative curriculum, even though it certainly is the *dominant* educational program in its category. The fact that the DP is not a unique alternative curriculum entails, simultaneously, potential risks and possible benefits for the application of the concept of curricular alternatives to other

programs. One of the most foreseeable perils would be to see the results of my analysis of the DP in Australia taken as automatically valid for other alternatives (or for the DP in other contexts). Against this eventuality, it is useful to remember that each curricular alternative calls for a detailed examination of its position in the particular landscape of alternatives available to students in the years at which the degree is offered. For instance, *MySchool* data suggest that the DP was far more socioeconomically exclusive than the PYP or the MYP in 2014 in Australia. While 62 percent of students in DP schools came from advantaged backgrounds (Q1), it is 53 percent of students in MYP schools and 42 percent of students from PYP schools who came from socioeconomically privileged backgrounds (Q1).

On the other hand, one of the primary benefits that can be drawn from using the concept of curricular alternatives is the profit of generalisation. Some of the insights gained throughout this work can serve as sources of inspiration for future research on regimes of curricular alternatives, and even educational alternatives more broadly. In particular, I believe that the methodological instruments I have moulded for this project—especially the systematic attention given to a comparative mode of analysis—can, despite all their idiosyncrasies, prove helpful for generating research agendas for the study of other educational alternatives.

2. Curricular alternatives and the educational opportunity structure

Since different curricular alternatives do not offer students identical chances of academic success, a hierarchical relation tends to be established between them. In the case of the DP in Australia, the hierarchy of curricula reinforces the advantage of already socially privileged students. In Australian secondary education, the quality of the opportunity for a given alternative is related to its social topography: the more socially exclusive alternative is the superior opportunity. And it is precisely because the current use of the DP in Australia further advances the growing divide between the opportunities provided to students from different social backgrounds that the program can be said to contribute to the reproduction of social inequality on cultural and economic grounds.

In the Australian context, the DP contributes, as streaming practices generally do, to the “aggregative segregation” based on cultural endowment (Bourdieu, 1996 [1989], p. 182). Indeed, if the economic selectivity of the DP is largely mediated by the tuition fees of schools in which the program is available, its cultural capital selectivity primarily operates at the curriculum level. Pierre Bourdieu (1996 [1989], p. 19) noted that “disciplines choose their students as much as students choose their disciplines” and Anthony Welch (2013, p. 197) added that, under a regime of school choice, schools choose students at least as much as students choose their school. This form of reasoning is also applicable to regimes of curricular alternatives: the DP program chooses its students as much as students choose the DP. Because of the historically-determined circular causation between (1) the reputation of the DP and (2) the academic success associated with the DP, and because of the objective capital requirements needed for accessing the DP in Australia, this alternative curriculum morphs into a *stream of excellence*, where like-minded and like-disposed students individually and collectively construct their future educational advantage. Moreover, the results presented in chapter five indicate that DP students are provided with an educational experience that seems superior to the experience of non-DP students in the same schools. Thus, the forge of positional advantage that the DP represents in Australia extends the possibilities of educational closure within and between schools at the senior secondary level.

Even in comprehensive education systems, where academic and social differences between schools are minimised, “gifted and talented classes, continue to do their old work, of socially segregating, as well as differentiating on curriculum or ability grounds” (Campbell et al., 2009, p. 188). Therefore, in a non-comprehensive system, such as the school system in Australia in the 2010s where differences between schools are large, the provision of the DP offers a formidable opportunity for privileged social groups—and the educational institutions serving the social aspirations of these groups—to capture this dominant alternative curriculum for their own benefit. Windle (2015, p. 42) notes that, in the state of Victoria, “those with the most resources [are] more active in school choice”, referring to non-migrant, English-speaking, socioeconomically advantaged families. There is thus a social gradient of school choice practices, and there was no logical reason to expect that the regime of curriculum choice would not display a social gradient of choice as well. As chapter six demonstrates, the social gradient of DP choice is a reality in Australia. There is,

however, one significant difference between school choice and curriculum choice practices: the relative weight of students' opinion (compared to their parents' views) is likely to be more important in the latter case. Nevertheless, similar cultural dispositions are necessary for school and curriculum choices: in both cases, the student and her family have to anticipate the most suitable environment for her to master a new set of cognitive and cultural demands as expertly as possible.

I hope that this study has demonstrated that the DP has no inherent 'nature' or necessary position in educational systems. The structures of the DP curriculum and of the education system in which it is implemented determine its social selectivity as much as its academic quality. The DP is not a form of 'ability' streaming based on an inherent and fixed superiority. However, the DP is regularly *turned into* an 'excellence path' (i.e. an academically selective site) in Australia, even where overt mechanisms of academic selection into the DP are absent. In such cases, the subtle match between teachers' and students' expectations, students' dispositions, and their family conatus towards social 'success', grants DP students a sense of educational positioning that leads them to elect the program that elects them just as much.

In the supposedly free interplay of DP supply and DP consumption, specific categories of students and specific types of academic demands recognise one another and, in the last analysis, recognise their own value. In other words, in Australian education as in all other regimes of choice embedded in neoliberal education systems, "the market is not free, and the [supposed] freedom to choose is not the same as the 'privilege' of being chosen" (Campbell et al., 2009, p. 182). While DP choice is theoretically available to all, it is objectively restricted only to some. Because of the objective cultural and economic requirements for accessing the DP, it constitutes "a curriculum of choice for more privileged groups" (Doherty, 2009, p. 78). As with other forms of excellence streaming, the DP constructs the dual reality of election through (self-)selection and relegation through (self-)exclusion. Hence, it contributes to the drawing of dividing lines in the academic continuum of students, which in turn tend to create distinctions in the social continuum made legitimate by educational verdicts.

The affinity between students' dispositions and the accumulated history of modal outcomes associated with the DP explains how this alternative curriculum can function as an excellence path without having been wittingly built to occupy this position in the educational field. The 'open' consumption of an educational product,

based on the pursuit of schools' and students' self-interest, can lead to a consequence unintended by any of these schools or students taken individually. At the system level, the implementation of the DP in some schools but not in others leads to a comparative deficit of 'prestige' in schools not implementing an alternative curriculum. At the school level, it is essential to understand that the process of vertical distinction based on curricular alternatives has *necessary* consequences on the rest of the senior secondary student population (i.e. non-DP students): as funds are limited in any school, the allocation of monies and human resources to the DP implies that resources are not available for other school activities, such as the development of a program for disadvantaged students, for example. Simply put, the implementation of the DP is not a neutral choice for schools. It is a political decision arbitrating between the interests of different groups of students and teachers.

With only one university-entry qualification (the state curriculum) available for most students, two curricula (the state curriculum and the DP) available to a limited number of students, and three or more curricula available to virtually no student at all, it could be said that the provision of academic curricula generally functions on a monopoly basis and, from time to time, on a duopoly basis. There is a central control by educational jurisdictions on the provision of curricula in schools, and these educational authorities do not seem to be aiming at providing a competitive curriculum market at this point. Yet, even if the number of curricula available on the educational market were unlimited, the regime of choice would not lead to a fair distribution of educational chances across the social continuum. In a hypothetical situation in which these numerous curricula would all embody socially representative cultural and cognitive demands, the unequal distribution of economic and other cultural resources between social groups would still make the regime of curricular alternatives more profitable for the dominant than for the dominated. As the example of the DP in Australia demonstrates, the supply of several academic curricula in a situation of unequal distribution of resources (between schools and between students) leads to a *vertical market segmentation*—where one product becomes an upmarket alternative to the standard consumption—rather than to a neutral and horizontal cohabitation of these different alternatives. In summary, even if the curriculum market could be made competitive, it still does not follow that a competitive curriculum market would be

desirable, especially if the objective of a fair distribution of educational opportunities matters.

III. On consumer choice in education

Australia stands out worldwide as one of the earliest adopters of a market-inspired school choice regime, making the country distinguishable by its unique longevity of implementation of this model (Windle, 2015, p. 16). In a neoliberally-shaped education system operating under a regime of formal choice, the academic and social gap between the most advantaged and the most disadvantaged schools generally widens. This increasing polarisation has a social utility for some: it allows for the concentration of “the total pool of resources available to the school” (Teese & Polesel, 2003, p. 121), especially its economic capital and cultural capital. This progressive estrangement between schools and its correlative academic and social ‘residualisation’ of the most disadvantaged schools in regimes of school choice is well documented (see previous chapter). What is less often noted, however, is the consequences of regimes of *curriculum* choice on the distribution of educational opportunities.

Interestingly, Australia is not only a world leader in school choice: it is also one of the leaders in curriculum choice (see chapter two). Some of the most essential consequences of school choice regimes on educational structures have their parallel in the implications of curriculum choice regimes on the distribution of educational opportunities. The DP program, by constituting a further site of educational seclusion, generally within already-privileged schools, contributes to widening the gap between the top and the bottom sections of the social and academic spectrums. The results presented in this work indicate that the DP often functions as an additional enclave of privilege where economic and cultural resources are even more pooled than in its host school. Accordingly, the current regime of DP provision contributes to furthering the possibility of making the collective resources of schools determining for student outcomes and, thus, to intensifying the polarisation of performance between academic and less academic students.

The provision of curriculum alternatives on a 'choice' basis has a major discursive benefit in terms of liberal educational governance: it provides the deceptive image of an open mechanism of allocation of students to different educational pathways. As such, it could be assumed that letting schools 'choose' to implement the DP or not, and letting students 'choose' to enrol in the DP or not, are both equivalent to ensuring the neutrality of the distribution of the DP opportunity. The decision of being involved with the DP would be argued to rest solely on schools, teachers, students, and their families, and they could thus be held responsible for their choice. But there are several issues with this socially naive interpretation of choice regimes.

First, students' theoretical freedom to choose the DP is bound by their actual freedom to choose schools that offer the DP. In other words, there are school-level limitations to students' freedom of choice of alternative curricula, given that only a small number of schools offer this alternative curriculum. And even if all DP schools were open-access and free institutions, basic enrolment capacity limitations would mean that not all senior secondary students would have the actual choice of the DP. Second, even for students who are enrolled in schools offering curricular alternatives, their hypothetical freedom of choice is circumscribed by their dispositions (especially academic and cultural ones) and the schools' overt or covert selection mechanisms into the DP. It is in their subjective assessment of the relation between (1) the perceived demands of the various curricular alternatives, (2) their academic competencies, and (3) the estimation of benefits that they can draw from the various curricular options, that students 'choose' a given path (if no selection procedure takes place). In other words, it is on a principle of "bounded rationality", using John Conlisk's (1996) notion, under which students' very assessment of their objective chances of success in the various streams is delimited by their acquired dispositions, that students' 'decision' is made. And at that game, students best equipped for assessing the benefits of the various options offered to them are undoubtedly those most endowed in educationally-relevant cultural capital, that is, those who are already advantaged by the cultural and cognitive demands of the curriculum. Accordingly, the mere principle of curriculum choice based on a supposedly 'free market' model of allocation contributes to increasing the privilege-dispossession gap on cultural capital grounds.

The objective competence for choosing the *right* curriculum is a function of the agent's knowledge (through her parents, friends, classmates, teachers, and other related

individuals) of the goods available on the educational market and their respective value. As Bourdieu (2010 [1979], p. 138) puts it: “one of the most valuable sorts of information constituting inherited cultural capital is practical or theoretical knowledge of the fluctuations of the market in academic qualifications”. This gives individuals an understanding of the real and current value of the different credentials and can thus guide their investment. If this remark is applicable to university degrees, it is no less valid for the curricular alternatives of senior secondary education, especially in systems where entry into profitable higher education degrees is selective. Hence the social groups richest in cultural capital tend to enrol their children in the best (according to the purely academic hierarchy) schools and programs available (Bourdieu, 2000 [1971], p. 64). To that extent, providing curricular alternatives under a regime of choice is bound to strengthen the educational power of cultural capital.

In fact, the parallels that can be drawn between the consequences of school choice and curriculum choice regimes suggest that we can analyse both issues at a more general level. Curriculum choice can be typically seen as a particular case of *educational choice*, which implies both the objective possibility of choice (that is, the material resources to do so) and the *dispositions* for choosing adequately (i.e. the cultural resources to do so). If school choice surely is one of the moments when cultural capital pays off (Gewirtz, Ball, & Bowe, 1995, p. 7), curriculum choice is a moment when a student’s cultural resources are even more determining or, more precisely, where the amount of cultural capital necessary for exerting choice to her best interest is greater than for school choice. Overall, cultural resources are essential to educational choice (Gewirtz et al., 1995, p. 22), and this statement holds true for the various forms and moments of educational ‘decisions’. Generically, ‘choice’ is thus a social practice embedded in the institutional configuration in which it takes place and informed by the social position and dispositions of the chooser. Choice is thus a socially discriminating practice, with concrete implications in a context where the decisions taken can have clear consequences on life chances. In formal regimes of choice, it is thus the very process of educational differentiation that contributes to the unequal distribution of educational opportunities along social lines, for choice regimes reinforce the educational power of socially constituted and unequally distributed properties, such as a person’s endowment in various species of capital.

In some cases, multiple forms of capital endowment are concurrently necessary, and the DP belongs to this category. Stephen Ball (2003, p. 119) noted that, for certain educational choices to become available, cultural and economic resources are necessary. Opting for the DP in Australia is one of these types of doubly selective educational choice. In fact, “it is because economic and cultural capitals statistically function as objective selection criteria for enrolment that DP students tend to come from families possessing both cultural and economic capitals” (Maire, 2015b, p. 202). Accordingly, because of its *double capital selectivity*, the DP is statistically more socially selective than any school or curriculum where only one major form of capital selectivity restricts consumption.

Beyond educational choice regimes applied to schools, subject and option choices also constitute forms of hidden selection (Gillborn & Youdell, 2000, p. 77) along academic and social lines. Based on the results presented here, it appears that curriculum choice completes the continuum of hidden selection mechanisms—ranging from school choice to subject or option choice—that structure supposedly open regimes of educational choice. This continuum of covert selection, by framing the distribution of educational chances, is a major determinant of the education-based reproduction of social inequality. In education systems, regimes of choice have a corollary in diverse forms of *selection*, which are manifested concretely in practices of inclusion and exclusion.

The present study also confirms what has been made evident in school choice analyses: social class informs educational choice (Gewirtz et al., 1995, p. 33). The selection that accompanies choice regimes is a selection based on social (including class-based) properties. Put differently, there are structural affinities between choice regimes and certain class dispositions. As much as school choice, curriculum choice is designed to make the *calculative* dispositions typical of the upwardly mobile middle classes—these social groups carefully planning their accumulation of (cultural, economic, and social) capital by being capable of projecting themselves in the long run and adopting a rational plan for accumulation⁹⁶—particularly efficacious. Therefore, the

⁹⁶ “The petit bourgeois is a proletarian who makes himself small to become bourgeois” (Bourdieu, 1984 [1979], p. 338). For the middle classes, “market behavior is influenced by rational, purposeful pursuit of interests” (Weber, 1978 [1922], p. 636) to a greater extent than for other classes occupying non-intermediate social positions. The fact that the petit bourgeois has an intermediate position in the social spaces implies that she faces dilemmas and tends to experience them more vividly than members of other classes. In turn, these dilemmas make her more prone to having conscious

‘choice’ paradigm constitutive of the neoliberal education agenda structurally privileges certain social groups, whose positions in the intermediate sections of the social space structure their conatus towards the intergenerational transmission and the potential increase of their privileges. As Doherty (2009, p. 76) summarises, “the neo-liberal discourse of school choice has allowed the anxious middle-classes to pursue ‘strategies of closure’ (Ball, 2003) around privileged enclaves and niche markets of educational distinction (Ball, Bowe, & Gewirtz, 1996)”. This analysis can be extended to the practices of curriculum choice.

In education systems structured by the competitive allocation of positional goods, choice regimes advantage the most educationally calculative of agents across the entire social continuum, that is, not only within the middle classes. The social bias of educational choice regimes, in which dispositions that are unequally distributed between the various social classes function as *resources for choosing well*, is transversal and covers most forms of educational choice, including curriculum choice. There is thus a social gradient in the ‘choice’ regime of curricular alternatives that disadvantages those who are already disadvantaged by other forms of educational choice. Those least likely to exercise school choice to their advantage are the same individuals who are least likely to improve their educational chances by a skilful practice of curriculum choice. Those poorly equipped with educationally-relevant cultural capital are thus likely to suffer from this new layer of ‘choice’ inserted into educational markets and accumulate the ensuing educational liabilities (in the form of less competitive academic results, for instance).

If the question of curricular alternative regimes is irreducible to issues of streaming, it also cannot be reduced to a simple question of choice of subjects or options either. With a single curriculum available, even when students are able to choose various subjects towards the completion of their degree, all students play ‘the same game’, as the criteria against which students’ performance is judged are universally applied. Under a regime of curricular alternatives, however, students are able to play one single game, even though other games also exist. It is not only the

strategies and elaborating rational decisions, where other segments of the social space—the working classes as much as the upper classes—rely on less conscious decision-making strategies (which does not mean that the ‘choices’ of other classes are less rational for satisfying their preferences), as their decisions are more often self-evident and taken for granted. Therefore, as Bourdieu (1984 [1979], p. 352) reminds us, “the whole existence of the rising petit bourgeois is the anticipation of a future which he will in most cases, only know by proxy, through his children, on whom he projects his ambitions”.

subject requirements that differ between curricular alternatives; it is the structural requirements for being eligible to obtain the credential that vary. As such, curricular alternatives pose sociologists of education with a theoretical issue that cannot be answered by school, track, or subject choice analyses. Analytically, the presence of an alternative curriculum such as the DP in various countries or states implies that the question of the comparative requirements and position of the different alternatives is re-problematised in each instance. In that regard, the framework I have used for analysing the Australian case (see chapter seven) would deserve being applied in other contexts. From a theoretical point of view, it is also important to specify the type of educational choice under consideration. While transversal logics are evident in different kinds of choice regimes, it is still necessary to clarify the idiosyncrasies of school choice, university choice, academic or vocational pathway choice, degree choice, curriculum choice, subject choice, and option choice.

In summary, one of the distinguishing features of regimes of educational choice is that they *facilitate social and academic segregation*. For school choice, as much as curriculum choice, the allocation regime allows the pooling of economic and cultural resources in certain socially “fortified” sites and deprives the socially “exposed” sites from such resources (Teese & Polesel, 2003, pp. 217-218). The sites where resources are accumulated are thus more capable of meeting the demands of the curriculum and produce superior academic results (Windle, 2009, p. 234). Teese and Polesel verified the role of resource pooling on the mastery of the curriculum in the case of state curricula in Australia. They found that the academic results of socially advantaged students (generally enrolled in private schools) were not only superior to the results of socially disadvantaged students (generally enrolled in government schools) but also *more consistent* (Teese & Polesel, 2003, p. 127). In other words, the concentration of superior resources in certain schools demonstrated that “family strategies of segregation and resource accumulation [are] highly effective in reducing the curriculum to a manageable process which generates globally high success” (Teese & Polesel, 2003, p. 129).

In the same vein, the high and consistent success of DP candidates from Australia (see chapter seven) demonstrates that most DP schools in Australia have (1) accumulated sufficient resources to reduce the DP curriculum to a manageable set of cultural and cognitive demands, and (2) excluded the students least endowed in

educationally-relevant cultural capital from the DP (or from the school altogether). In their strategy of implementation of an alternative curriculum, schools have been able to accumulate resources (especially the sum of cultural capital that the group of students bring to the DP) for effectively mastering the alternative curriculum and thus drawing symbolic benefits from their school-level success in a prestigious curriculum. This emergent academic elitism can be explained by the convergence of interests between DP schools and DP students for turning the DP into an ‘excellence’ program. For schools, on one hand, the regime of choice has symbolic capital (i.e. the school’s reputation) as its main currency. For students, on the other hand, the academic race has credentials as its main currency. At the same time, the capital requirements and dispositions necessary for accessing DP schools and the DP program contribute to explaining the DP social elitism, and thus its contribution to the reproduction of social inequality in Australia.

Finally, I would like to offer a brief critique of the interested discourses of choice regimes in education. Promoters of choice regimes, especially in the political field, often remain vague regarding the actual meaning of choice. Specifically, there is a crucial question that is virtually never answered by proponents of choice regimes. Who will really be able to choose? This question immediately leads us to another two-dimensional interrogation. What are the *actual options available* to different social groups, and what *resources and dispositions* do they need to be willing to make effective educational choices?⁹⁷ Once these two questions are raised, it becomes far more difficult to claim that the social conditions of possibility for *generalised* regimes of choice can ever be met. As a result, since choice regimes are bound to be socially discriminating, their application to education systems cannot accommodate any comprehensive conception of equality of opportunity, at least so long as the structures of education systems retain their current relation to the distribution of life chances.

In the Australian market, disadvantaged social groups are often not—and some do not want to be—involved in school choice practices (Connell, 2003, p. 246; Windle, 2009, p. 235; 2015, p. 41). It also seems that many parents would prefer not to have to choose a school for their offspring (Bonnor & Shepherd, 2016b, p. 38). The fact that choice can take place only for those who actually have a choice is evident in the large

⁹⁷ This critique of choice regimes does not even address the more fundamental problem of freedom posed by this imposition of the particular and arbitrary type of relation (i.e. a consumerist one) to educational institutions that a regime of choice entails.

underrepresentation of disadvantaged families from non-government schools. In turn, the possession of capital and adequate dispositions is often a prerequisite of actually having a choice (Mills, 2013, p. 2). In fact, choice in practice, rather than choice in theory, is always limited to a small portion of the spectrum of educational ‘consumers’. Behind their supposed concern for parental freedom, presented as their prime reason for supporting choice regimes in education, those who champion choice often do no more than inappropriately generalise the particular dispositions, preferences, and desires associated with their particular social position to the entire social continuum, as if the meaning of freedom were exhausted by their restricted conception of it.

It is above all the moral philosophy serving to justify choice regimes that deserves to be questioned. The neo-liberal arguments for choice are based on a conception of freedom (one of the cardinal values for liberals) as *individual* and *negative*. In education, as in other spheres, it is the same justification of ‘freedom’ that neoliberals utilise in order to advocate for supposedly free market models of provision and allocation. To serve their argumentative purposes, they reduce freedom in society (or social freedom) to market freedom, “defined as an absence of obstacle to desire” (Hollis, 1990, p. 17). In this negative conception of freedom, “a market is free, if anyone may offer to buy or sell whatever he wants and if all resulting transactions are by mutual consent. [...] There is no more genuine freedom than that of consent” (Hollis, 1990, p. 17). If consent is the bottom line of freedom, one’s choice to supply or consume any educational product cannot be restricted, as long as the supplier and the consumer consented to the transaction.

There is a crucial issue with this market conception of freedom. Consent must always be reached between *equal parties* if it is to be a truly *free* consent. Put differently, any transaction based on consent is sensitive to relations of power. As Varoufakis (2002, p. 179, my emphasis) describes it, “a transaction (or contract) is *free and fair* provided all parties had viable alternatives to it and yet decided to go ahead with it”. Martin Hollis (1990, p. 21) neatly summarises the ambiguous relation between consent and choice (i.e. supposedly freedom): “the mere fact of consent does not signal freedom of choice”. Accordingly, choice regimes cannot be morally legitimated simply by a hypothetical freedom of consent assumed to be available to all social agents.

Amartya Sen (1977, p. 323) reminds us that this conception of freedom conflates people’s preferences with their practices (i.e. what proponents of choice

regimes would swiftly call their ‘choices’ or ‘decisions’), for “this approach seems to be based on the idea that the only way of understanding a person's real preference is to examine his actual choices”. This is a poor and epistemologically weak way of thinking about choice (and thus freedom). Durkheim’s understanding of actual choice, defined as action by consent, is much more refined and sociologically accurate. He notes: “there is always constraint in any acts we carry out and in any consent we give, for they are never exactly in line with our wishes” (Durkheim, 2003, p. 208). In line with this conception, consent given under duress or domination, or simply in the absence of a reasonable alternative, cannot be seen as a genuine choice (i.e. free consent). Therefore, the freedom to determine what educational opportunity one is given is actually *limited* by market regimes of provision and allocation for all those without any reasonable alternative. Disadvantaged families, even if they wanted to choose, often do not choose their school, because they have no viable alternative than the school they go to by default. Under the guise of a generalised increase in parental (i.e. consumer) freedom, the educational market dispossesses underprivileged families from the practical freedom of choice they discursively grant them.

All those who do not have sufficient resources to consider viable alternatives cannot be considered to be choosers. For underprivileged families, the educational choice regime is often synonymous with an absence of freedom. For that reason, actually-existing choice regimes, where some people have insufficient resources to be in a position to choose between several options, are *exclusionary and coercive* regimes. For a regime of choice to be genuinely conducive to individual freedom for all, limits to the unequal distribution of market power must be set, in order to promote the generalised pursuit of social agents’ respective ends (Hollis, 1990, p. 20). There can be no organic and comprehensive market freedom without a fair distribution of resources and opportunities. With these considerations in mind, I can now turn to an analysis of neoliberally-constructed education systems.

IV. Features of a neoliberal education

In the previous chapter, I provided a brief overview of the reforms that have reconfigured the distribution of educational opportunities in the Australian education

system since the 1980s, and I labelled these as ‘neoliberal’ reforms. I described the parallel history of neoliberal reforms and the market permeation of the DP in the Australian education system and showed their relations. Since it is these neoliberal reforms that have made the DP contribute to the reproduction of social inequality to the extent that it currently does, it is insufficient to focus on the DP case to understand its contribution to the reproduction of social inequality. The problem of the reproduction of social inequality in Australian education is far deeper than the case of the DP. Therefore, I will now pay attention to neoliberal reforms in education and their relation with the three fundamental structures of education systems that determine the education based (re)production of social inequality (see chapter one).

1. Neoliberalism as a political agenda

In the academic world, the concept of ‘neoliberalism’ has been used so frequently that it has become the norm for articles and books dedicated to neoliberalism to introduce their argument by commenting on its excessive use (Boas & Gans-Morse, 2009, p. 137; Dean, 2014, p. 150; Eagleton-Pierce, 2016, p. xiii; L. Edwards, Cahill, & Stilwell, 2012, p. 1; Eriksen, Laidlaw, Mair, Martin, & Venkatesan, 2015, p. 911; Hilgers, 2010, p. 351; Venugopal, 2015, p. 165). One possible reason for the generalised academic appropriation of the term ‘neoliberalism’ is that the ideas put forward in neoliberal rhetoric have become “hegemonic as a mode of discourse” in mainstream media and common-sense imaginaries (Harvey, 2005, p. 3). Since neoliberal arguments largely function as the current “political-economic zeitgeist” (J. Peck, 2010, p. 14), neoliberalism offers a designated ‘target’ for critically-minded social scientists interested in studying the social order. At least until the early 2010s, alternative discourses to neoliberalism were insignificant or absent from mainstream politics and media in countries such as Australia. To that extent, it is not excessive to see neoliberalism as the *doxa* of the last twenty to thirty years; the unquestionable political vulgate based on a kind of taken-for-granted way of thinking about society (Bourdieu, 1998a, p. 80). Because of its omnipresence, neoliberalism has come to function as a “*symbolic Great Wall*” (Wacquant, 2004, pp. 99-101, original emphasis) obtruding in the way of a broader and genuinely critical analysis of the transformations that are reconfiguring societies.

The problem is that a superficial use of this portmanteau word offers very little explanatory power. The solution is not simply to make ‘neoliberalism’ responsible for all societal ills. What definition of neoliberalism can we use to make this notion analytically valuable? At a general level, neoliberalism can be defined as a *political discourse* (Bourdieu, 1998a, p. 86; 1998b, p. 3; Wacquant, 2012, p. 66) advocating for institutional reforms in various spheres and using argumentative structures borrowed conjointly from (1) neoclassic economics and (2) liberal philosophy for justifying these transformations. The reforms proposed for the reorganisation of the state apparatus and its institutional configuration correspond to the ‘neo’ part of neoliberalism. The project is to bring new institutional arrangements to life. For the ‘liberalism’ part, neoliberal discourses appeal simultaneously to liberal philosophies and the rhetoric of neoclassic economic theory in order to support their project of state alteration. Bridging the gap between individual conceptions of liberalism and neoclassic theory, neoliberal advocates claim that reforms facilitating the advent of free-markets in various social spheres are desirable, for they would be conducive to freedom.

It is important to clearly separate the market models used in neoclassic economics—in which free markets are defined as efficient social arrangements—and borrowed by neoliberal proponents, from the package of reforms neoliberals support. Almost systematically, the recourse to free-market arguments functions as an intellectual endorsement more than as the actual grounds on which proposals for reform are developed. In fact, it is highly probable that most neoliberals who claim to support free-market reforms in various social fields would not like to see free markets realised (or closely approached), even if free markets were realistic projects in these domains (they are not).

Neoliberal reformers generally assert that free—that is, perfectly competitive—markets can be desirable social arrangements, and that the reforms they propose represent decisive steps towards the advent of free markets. Of course, both claims can be challenged, even though the claim that neoliberal reforms represent a reduction of the distance between the social configuration at hand and a supposed free market is rarely questioned. In any case, it is important to distinguish market (or neoliberal) reforms from free-market models. These two notions do not exist on the same epistemological plane: the former represents a set of concrete proposal for transforming institutional arrangements, while the latter represent an ideal-typical form of economic

modelling. Although neoliberals have an interest in conflating these two dimensions, neoclassic economics refers to a scientific discipline, while neoliberalism refers to a political agenda.

While many economists rightly remark that neoclassic economic theory cannot provide a depoliticised and scientific basis for finding a path leading towards the *good society*, a number of economists trained in the neoclassic tradition have succumbed to the fantasy of a scientifically-resolved optimal social arrangement, bypassing the political process of collective decision for determining the collective good altogether. They, and their ideas, have progressively come to dominate the highest political spheres in a way that has been meticulously described by Michael Pusey (1991) in the Australian case. Neoclassic economic arguments have come to function as forms of justification for new institutional reforms.

In modern societies, science is no doubt a form of knowledge that gives the highest degree of credibility to those who use it to support their claims. Therefore, the (mis)use of science for accumulating political credit is not surprising. At the same time, neoliberal advocates have also drawn links between their policy packages and moral philosophy. They have focused most of their attention on the notion of freedom, which is arguably one of the most effective philosophical concepts for garnering moral approval and defusing counter-arguments. In the process, neoliberals have drawn on the philosophical schools of thought in which the notion of freedom had been reworked in a way that would satisfy their political agenda. The discussion of educational choice regimes presented above already reveals some fundamental weaknesses of a market conception of freedom. Despite its flaws, neoliberals' joint borrowing from neoclassic economics and certain traditions of liberal philosophy has allowed them to successfully impose their agenda for reshaping the state and its prerogatives in various fields. The education system is one of these fields.

The axiomatic core of neoclassic economics offers an important point of departure for understanding the political use of the free-market theory. In the words of Samuelson and Nordhaus (2010 [1948], p. 160), the authors of the most renowned economics textbook since the 1950s, "one of the most important results in all economics is that the allocation of resources by perfectly competitive markets is efficient". If that is the case, then turning real markets into perfectly competitive (i.e. free) markets should make society more efficient. Logically, then, politicians calling for

market reforms in different social spheres can be reasonably seen as proposing reforms that will be in society's best interest. This is precisely the stance adopted by neoliberal reformers: they argue that their reforms represent a progress towards *free markets*. Their recipe for reform is generally composed of three principal ingredients: deregulation, privatisation, and competition (Steger & Roy, 2010, p. 14). Less state regulation, more privatisation, and more competition would eventually bring free markets to life (or so the argument runs).

Even if we disregard the deep theoretical issues with the axiomatic foundations of neoclassic economic theory⁹⁸, there is a monumental problem with the supposedly logical transition from neoclassic economics to neoliberal politics. The 'catch' resides in the fact that free markets achieve *efficiency* in neoclassic economics. Efficiency is no doubt seen as "one of the central concepts in all of economics" (Samuelson & Nordhaus, 2010 [1948], p. 160), but how is it defined? In most cases, neoclassic economics assimilate efficiency with *Pareto efficiency*, a market situation in which "no possible reorganization of production or distribution can make anyone better off *without making someone else worse off*" (Samuelson & Nordhaus, 2010 [1948], p. 160, my emphasis). It is in the meaning given to efficiency that the fallacious transition from the 'free market' of neoclassic economists to the 'good society' of neoliberals is revealed. For there is *absolutely no logical connection* between a society with efficient markets and a *good* society. A market reform that would make just one person worse off while making everybody else better off would be technically inefficient in neoclassic terms, yet it is easy to imagine how such a reform could be considered as collectively beneficial.

The clause of 'non-downgrading' assimilated with the idea of efficiency in neoclassic economics is a *political clause*. It removes from the realm of political discussion and decision, or at least restricts, one of the most essential political questions: the question of (re)distribution. For that reason, using free market analyses to support policy reforms cannot be politically neutral. This condition of non-downgrading implies that free markets are fundamentally *conservative* social configurations. If the fact of rejecting a priori the possibility of making anybody worse off, no matter how

⁹⁸ For the curious reader, some of the most fundamental issues with the 'model of man' in neoclassic economic theory have been elegantly discussed by Martin Hollis and Edward Nell (1975). For a broader overview of the multifaceted issues related to neoclassic economic theory, Yanis Varoufakis' (2002) book is an accessible introduction.

much they possess, is considered as ‘efficient’ from a neoclassic point of view, using Pareto efficient distributions to decide on the proper allocation of goods makes any acquired privilege unassailable simply because it has been won. There is thus a hidden political philosophy built into the use of Pareto efficiency as a political weapon. The political appropriation of free market models not only entails the refusal to subvert any market inequality. The combination of appeals to liberal philosophy and free market models legitimises inequalities under the cover of formal *market freedom*.

Neoclassic economics can tell us, from its own point of view, how perfectly competitive markets are ‘efficient’ (or optimal), but the very definition of this word can be made compatible with any hypothetical free market-based social order, no matter how unequal. For instance, “an education system with high levels of inequality might still be Pareto optimal” (Marginson, 1997a, p. 87), and “a society or an economy can be Pareto-optimal and still be perfectly disgusting” (Sen, 1979, p. 22). In fact, if a free market were to be implemented in a situation with existing inequalities, it would (at best) not challenge these inequalities. “The [free] market can be very cruel. If you enter it with nothing to sell [or no resources to buy], you are unlikely to leave it with very much at all” (Varoufakis, 2002, p. 219). For that reason, it is only a political process that can determine in which social spheres (if any) a regime modelled on the principle of the survival of the fittest should be constructed. For instance, there are reasonable arguments supporting the idea that societies would gain at making education more than a private good and not organising it on a ‘survival of the fittest’ basis (Turner, 2014, pp. 3-11).

Neoclassic economics has very little to say regarding what should be done about inequality. In fact, even the conventional economic textbook now acknowledges that the neoclassic model is useless for determining the political decision of what to do regarding the distribution of opportunities: “what can [neoclassic] economics contribute to debates about equality? Economics as a science cannot answer such normative questions [...] these are *political questions*” (Samuelson & Nordhaus, 2010 [1948], p. 39, my emphasis). The standard economics textbook thus reminds its readers that neoclassic economics as a science and the *right* collective choice to be made for organising markets have nothing to do with one another⁹⁹. In fact, it even invites them

⁹⁹ The price to pay for the ‘scientificisation’ of political economy into its eventual neoclassic outfit was the loss of its relevance for discussing some of the most fundamental political questions.

not to readily accept competitive markets as the right social arrangement: “a market economy may produce inequalities in income and consumption that are not acceptable to the electorate [and] a nation does not need to accept the outcome of competitive markets as predetermined and immutable” (Samuelson & Nordhaus, 2010 [1948], p. 38). In summary, free market analyses in the neoclassic tradition tell us nothing about what should be done to build a good society. They offer no answer to the question of the distribution of life chances and its correlative inequalities, because of their interest in and normative definition of efficiency. Since the distribution of educational opportunities is a powerful principle of distribution of life chances, neoclassic economics thus has nothing to teach us about the proper distribution of educational opportunities either.

In education, for instance, neoliberal reforms proposing regimes of educational choice and competition cannot claim to improve the overall *quality* of education based on a supposed progression towards free markets. The reason for this impossibility is simple: models of free markets applied to education deal with educational efficiency but not with educational quality. Deciding what a good education is can never be settled by market reforms. Even if free educational markets could be achieved (and they cannot), they could very well be bad education systems, because it is only politically and collectively that we can decide what a good education system ought to look like. For instance, perfectly efficient educational markets can very well systematise the reproduction of social inequality over generations and deny equality of opportunity to students. If we consider that equality of opportunity is an important moral principle for our societies, then a free educational market would be a bad education system.

Finally, it must be noted that, within the neoclassic school of economic thought, the economists most aware of their value assumptions do not assert that efficiency is to be preferred to other notions, such as *equality* or *fairness*, as our collective standard for judging the adequacy of our institutional arrangements. In education, for example, one could convincingly imagine that the objective of a fair distribution of opportunities is often more important than the objective of ‘efficiency’ in the educational market. The reader will also notice that an efficient educational market in no way necessarily implies a superior overall level of academic performance. Accordingly, even if

Numerous heterodox and political economists still produce analyses with an undeniable political relevance, but at the cost of being marginalised in their field.

educational achievement (at the societal level) were seen as the most important objective of education, market reforms would still have no valid justification for being implemented. Any political proposal calling for market reforms in the name of the economic rationality of these reforms for advancing the collective good is deceptive.

While I have argued (in chapter one) that, according to most individuals, equality is the moral principle that should determine the distribution of life (including educational) chances, it is only a collective decision, reached via a political process, that can determine the most appropriate institutional configurations to be developed in education and other social spheres. Of course, whenever social agents have conflicting interests for the choice of one form of institutional organisation over another, this collective process takes the form of a group or class struggle. Given that most educational reforms, including market reforms, tend to further the privilege of certain social groups and increase the (relative) disadvantage of others, their implementation or dismissal is the result of political struggles between competing interests, even if some social agents are unaware of this conflictual dimension. More generally, the very structures of education systems are the sedimented result of a struggle between the desires of some and the wishes of others, and the rhetoric of the nonexistence of such conflicting interests surely is one of the political weapons most commonly used by those who, privileged by the existing configuration or the proposed reforms, have everything to win from making less privileged social groups believe that the struggle does not exist.

2. The Australian face of neoliberal education

a) The ideological core of neoliberal reforms in education

Neoliberal reforms are not specific to the educational sphere. In fact, the neoliberal agenda was first developed to address the widespread issue of the role of the state in the conduct of capitalist countries that faced considerable economic challenges in the 1970s. Neoliberal politicians found one of their spiritual fathers in the person of Friedrich Hayek. His economic, moral, and political doctrines formed a well-argued thesis for a total reshaping of the state in capitalist societies, and his *The Constitution of Liberty* (Hayek, 2011 [1960]) became a landmark amongst neoliberal circles. The anti-

democratic and aristocratic core beliefs underpinning Hayek's views suited well the political agenda of New Right parties that progressively accumulated political power in many Western countries at the end of the 1970s and beginning of the 1980s. Hayek's contribution was reinforced by the helping hand provided by the theories of economists like Friedman (2002 [1962]) and philosophers like Nozick (1974). The gap between neoclassic economics and politics was bridged even more straightforwardly by James Buchanan and Gordon Tullock. In their Public Choice Theory, these economists set themselves to apply the microeconomic foundations of neoclassic economics to the study of politics (Buchanan, 1975; Buchanan & Tullock, 1962; Buchanan & Wagner, 1977). Drawing on these conceptions largely influenced by the axiomatic foundations of neoclassic economics, the 'reform package' of neoliberal proponents called for a thorough transformation of legal and institutional structures.

Neoliberal reforms were primarily applied to labour and capital (especially financial) markets (Duménil & Lévy, 2004, p. 2), with the underlying objective of "[insulating] the 'spontaneous order' of the market from the ballot box. The political sphere, in this doctrine, should have no say in the distribution of work and resources, nor in the workings of the financial sector" (Supiot, 2012 [2010], p. 20). Meanwhile, the oil crises of the 1970s became a discursive alibi for insisting on the necessity of reducing public expenditure (in order to restore Western countries' productivity and growth). Alongside the reform of labour and financial markets, publicly-funded social services were to be 'rationalised'. The governmental provision of social welfare and education became the first areas of expenditure for which governments allegedly tried to reduce their costs (Glennerster & Le Grand, 1995, pp. 118-119), by progressively turning towards 'quasi-market' reform packages¹⁰⁰.

At the global level, "the hegemonic position [of] the growth paradigm" was re-established from the mid-1970s onwards (Schmelzer, 2016, p. 313). This growth imperative, combined with the work of economists who had studied education from an investment point of view in the 1950s and 1960s, supported a reconceptualisation of the major social function of the school system. From an economic point of view, Theodore

¹⁰⁰ Glennerster and Le Grand (1995, p. 119) argue that the 'quasi-market' (i.e. partially-competitive market) solution in social services leads to a reduction of costs only if the market can be made competitive. Given the sheer difficulty of making markets competitive in areas such as health and education, they contend that "any government trying to cut on expenses by turning to quasi-markets was setting itself up for a disappointment, and that is what happened" (Glennerster & Le Grand, 1995, p. 121, my translation).

Schultz (1960) had analysed schooling as the development of ‘human capital’, and Gary Becker (1993 [1964]) had popularised this idea in his own human capital theory. In both cases, it was education as a factor of economic growth that concerned these authors. Despite the limitations of this “economistic idea” of education (Connell, 2013, p. 104), neoliberal politicians embraced it. From the 1980s onwards, formal education became primarily thought about as an investment in human capital, i.e. an apparatus for creating economically productive individuals. In his in-depth study of the neoliberalisation of the Australian federal political apparatus, for instance, Michael Pusey (1991, p. 35) documented the way top policymakers in Canberra came to see the educational system as a factory of human capital mattering primarily, if not exclusively, for its economic functions.

If the major function of the school system was to create human capital, then, as for any other ‘productive activity’, market reforms should prove more efficient at increasing productivity than the institutional setting in place. The performance of education suppliers (schools and teachers) would improve if they were made to compete against one another on a market basis, because schools would be more effective if autonomous and pushed to ameliorate their practices by ‘market forces’. Therefore, reforms destined to increase the competition between schools should be implemented across education systems.

This is precisely the thesis put forward by Chubb and Moe (1990) in their textbook for market reforms in education. Schools should be made to compete against one another and pushed to improve their performance. A more competitive school system would mean a more efficient and productive school system. And Chubb and Moe identified one specific regime capable of bringing about all these spectacular improvements: the regime of consumer choice. The institution of choice regimes was described as “the most innovative and promising reforms to have gained momentum during the late eighties”, and “reformers would do well to entertain the notion that choice *is* a panacea” (Chubb & Moe, 1990, pp. 206; 217, original emphasis).

For Chubb and Moe (1990, p. 207), the structure of education systems should simultaneously support parental *choice* and “free up the supply side” by engineering a *competition* between educational ‘suppliers’ (i.e. schools and their teachers). This would be the recipe for an efficient educational system. Accordingly, auxiliary reforms supposed to increase the capacity of consumers to exercise choice must also take place.

Amongst these, the performance of schools should be made comparable. In order to attain this comparability, schools and students' performance must be *standardised*, and there must be a generalised system of *accountability* based on universal reporting mechanisms.

At the general level, there are thus two central ideological pillars to the neoliberal reform of education systems. On the supply side, competition should be the rule. On the consumer side, freedom of choice should govern. Competition and choice are the two dominant discursive regimes of the neoliberal education agenda, irrespective of the countries where these neoliberal education reforms have been implemented. We find here the two sources of inspiration of neoliberal arguments adroitly combined: the economic theory of competition on one hand, and the liberal morality of choice on the other hand.

b) Neoliberal reforms in Australian schooling

The previous section clearly shows that neoliberal education reforms are acts of social engineering destined to transform the regimes of supply and consumption of education. "The objective of neo-liberalism has been to foster market-based competition and individual choice" (Connors & McMorrow, 2015, p. 49). In Australia, the double agenda of supplier competition and consumer freedom has been adopted progressively in the last thirty years by both Labor and Coalition governments. The transition towards regimes of formal consumer choice—for those who could afford to choose—was initiated in the second half of the 1970s with the federal government increasing its support for private schools, and thus enhancing the comparative economic resources of non-government schools. At that point, however, supplier competition was not a dominant mode of governance.

In the late 1980s and early 1990s, state-driven de-zoning of enrolment regulations extended the regime of formal (or supposed) consumer choice to the government sector. The generalisation of per-capita funding for schools government and non-government schools led to a competition between schools for the enrolment of students, with schools being unequally equipped for attracting the 'best' categories of students. This simultaneously led to a greater social homogeneity of students *within* schools and to a starker social heterogeneity of students *between* schools. Market

reforms have “increased [the] social stratification of Australian schools” (Connors & McMorrow, 2015, p. iv).

While these ‘supply-side’ reforms were meant to lead to a great competition between schools (bearing in mind that school competition was hoped to automatically improve the overall ‘efficiency’ of the education system), a 2013 independent report suggests that, despite 20 years of ‘school competition’ reforms, between 40 and 80 percent of Australian schools face no actual competition from other comparable schools (Jensen, Weidmann, & Farmer, 2013, p. 10). Most of the time, the number of schools with comparable academic, resource, and social profiles—that is, schools that would actually compete for the same types of students—within a practicable perimeter is very limited. Highly-resourced and high-achieving schools are over-subscribed, and they choose their students more than students and their families choose them (Windle, 2009, p. 240). The repeated waves of market reforms that have altered the institutional and legal structures of the Australian education system since the late 1980s have thus been unsuccessful at creating the much-lauded competitive educational market.

In order to support freedom of choice on the consumer side, de-zoning policies were the major instrument in the government sector. However, choice between different options is often difficult when these alternatives are not readily comparable. Accordingly, policy reforms generalised national standardised testing for all Australian schools. In 2008, the federal government launched the National Assessment Program – Literacy and Numeracy (NAPLAN) to measure the performance of Australian students in Years 3, 5, 7, and 9. Still, accessing reliable information about the performance of different schools was not a systematic process. Accordingly, in 2010, the Labour government developed the *MySchool* website for making information on the comparative performance of schools publicly available to all parents. Finally, this enterprise of homogenisation was completed by the establishment of a national curriculum in the early 2010s, a first in the history of Australian education. Meanwhile, the DP was allowed to retain its special status as a curriculum alternative, in manifest violation of the supposed universal standardisation of Australian education.

As with the projected regime of supplier competition, the hypothetical model of universal consumer choice has, expectedly, failed to materialise. For instance, non-government schools are, to this day, still allowed to select their students, while this principle goes against any conception of freedom of consumer choice. Most Australian

families cannot choose elite private schools, for their fees are far too expensive. In addition, the re-emergence of selective government schools has limited the actual alternatives given to less academic students. More generally, most students do not have more than a handful of schools available in their environs. Their options are necessarily limited, and it is easy to understand that, even in metropolitan areas, it is unrealistic to expect more than half-a-dozen *similar* schools within a reasonable radius. School markets also have high switching costs for consumers (Klemperer, 1987, p. 375). Families cannot decide to have their son or daughter removed from their current school and sent to a new school as easily as they can decide to leave the restaurant where they are having lunch to find another one with a better menu.

Even on their own terms, neoliberal reforms have thus manifestly failed. There is a wide array of examples showing that the ‘ideals’ of consumer choice and school competition are far from being a reality in Australia, after almost 30 years of market reforms meant to achieve them. Since (1) non-government schools are allowed to exclude students on an economic basis by collecting tuition fees, (2) many schools are encouraged to select their students on academic and cultural grounds, and (3) there is an extremely unequal distribution of resources between schools, those who held any hopes for achieving a competitive schooling market in Australian must be disillusioned. The very simple fact that a large number of schools have the power to refuse the consumer freedom of choice supposedly cherished by neoliberal supporters, as well as the correlative unequal distribution of resources between schools, constitute deeply *anti-competitive market principles*.

The right for a ‘producer’ to choose its consumer, granted to non-government schools and selective (i.e. non-comprehensive) government schools in Australia, cannot coexist with a market regime meant to enhance supplier competition. This logical contradiction in the neoliberal model shows that the value and activities of teachers and schools cannot be adequately understood in terms of ‘producers’ (at least not in the neoliberal definition of educational producers). Schools and their teachers provide their students with *educational experiences*, not with *products*. The academic performance of students—a supposed measure of the ‘efficiency’ of schools—is only a result of their educational experiences.

In the real world of Australian education, concrete supplier competition remains as limited as the concrete freedom of choice that many families were meant to enjoy.

But focusing on the ineffectiveness of many neoliberal reforms to achieve their stated goals is missing the most important consequences that these reforms have had. The neoliberal reconfigurations of the structures of the school system have been far from neutral with regard to the distribution of educational chances between social groups. The most concrete consequence of neoliberal reforms has been a redistribution of the already-biased allocation of educational opportunities to the benefit of economically and culturally privileged social groups.

c) The reproduction of inequality in neoliberal Australian education

The market reforms undertaken in the Australian schooling system and supposed to enhance its efficiency have had strong implications for the reproduction of social inequality. In society at large, the most evident achievement of neoliberal reforms has arguably been a redistribution of economic resources resulting in a considerable increase in economic inequality. While their success in terms of efficiency, competition, and satisfaction of ‘consumer’ preferences are all discussable, neoliberal reforms have been very successful at reinforcing the domination of the dominants. Even their success for achieving economic growth is questionable. As Harvey (2005, p. 159) puts it, the most evident economic consequence of neoliberalisation has been far more a redistribution of wealth towards privileged social groups than a progress in the creation of wealth.

Given the constancy with which neoliberal reforms have widened inequalities in many domains and in most of the countries where they have been implemented, it is clear that the increase in inequality is *structurally inscribed* in the neoliberal policy packages themselves. In that regard, neoliberalism is inherently a political agenda driven by class struggle (Duménil & Lévy, 2004, p. 68; 139). If one focuses on what it has actually achieved, it is hard not to consider neoliberalism as a class-based project. The successful adoption of neoliberal agendas in various social fields represents a great victory for the dominant classes in this political struggle¹⁰¹. Wacquant (2004, p. 99)

¹⁰¹ Glennerster and Le Grand (1995, p. 132) provide an element of explanation for the commitment of traditionally left-wing political parties to market agendas in social services. Taking the example of the UK, they argue that Labour support for partially-competitive markets (i.e. quasi-markets) in education and other social welfare sectors can be explained by the tension existing between the increasingly demanding expectations of the middle classes and the limited budgetary resources available to governments (Glennerster & Le Grand, 1995, p. 132). Since “the cost of present-day welfare states

rightly notes that, with neoliberalism, the “class structure is being rigidified and polarized”. The various social movements (such as Occupy Wall Street in the US and Nuit Debout in France) that have arisen in many countries since the Global Financial Crisis of 2008, and which have attempted to revolt against neoliberal paradigms and their social consequences, seem to confirm this class-based tension at the heart of neoliberalism.

As the previous chapter clearly outlined, the neoliberal reforms that have altered the institutional structures of the Australian education system have increased the social inequality in the distribution educational opportunities. In other words, neoliberal education reforms have hypertrophied the power of inherited capital in shaping the distribution of educational chances (including the chances of academic success). The most evident consequence of market reforms in education has not been a more efficient education system, but a more stratified one. The neoliberalisation of Australian education has thus made the system more prone to serve as an instrument of reproduction of social inequality over generations.

Schools have been the primary unit of application of neoliberal reforms in education. While the school a student attends has become more determining for her educational chances, the school she goes to has also become more directly determined by the resources her parents possess, especially at the secondary level. At the same time, the case of the DP also demonstrates that school-level disparities are not the only form of educational differentiation that has been turned into a more powerful instrument of reproduction of social inequality. Regimes of curricular alternatives also function as forms of differentiation that sustain the reproduction of social inequality in Australia. By widening the gap between the experiences provided to the most socially disadvantaged and the most socially advantaged students, neoliberal reforms have created the conditions for making the education-based reproduction of social inequality easier. The primary mechanism has been an increase in the educational power of economic and cultural (and probably social) capital. Exley and Ball (2014, p. 14) adequately see the increase in the power of economic capital in education as a core

tends to exceed taxpayers’ goodwill” (Glennister & Le Grand, 1995, p. 133, my translation), quasi-markets are seen as a solution for labour parties to avoid losing middle-class votes to liberal and conservative parties. This labour manoeuvre rests on the assumption that the middle classes see market regimes as less expensive (for themselves) than the fully-private market solution, but also as more profitable (relative to the amount of tax paid for them) than the maintenance of a fully publicly-funded universal system for all (including disadvantaged social groups).

feature of neoliberal reforms. Market educational reforms have failed on many accounts, not the least in their attempt to make the school system competitive, but they have undoubtedly been successful at reverting any progress towards a fair distribution of educational opportunities that may have been achieved in the decades following the Second World War.

This consequence of neoliberal reforms in education is not a peculiarity of the Australian case. Indeed, the “net effect” of neoliberal policies has been found to increase inequality in education more generally (Turner, 2014, p. 10). Nevertheless, the specificities of the neoliberal reforms implemented in Australia, in a context where the private sector was historically large (McKenzie & Weldon, 2015, p. 26), have led the country to one of the top positions in the worldwide race for the neoliberalisation of schooling. The Australian funding and enrolment regulations have permitted an unprecedented pooling of economic and cultural resources in corporate schools (Teese & Polesel, 2003, p. 119; Windle, 2015, p. 98), leading to very high inequalities of resources between the wealthiest and poorest institutions.

The most essential feature of neoliberal reforms is that they are *class-based* political decisions that arbitrate between the competing interests of various social groups in favour of the dominants. This is one of the most valid reasons for paying attention to the reproduction of inequality in neoliberally-shaped education systems, as I have attempted to do in this thesis (from the point of view of regimes of alternative curricula). In education, I argue that the main consequence of neoliberal reforms is that they engineer a *return to the primacy of the ‘reproduction of social inequality’ function of education*. To that extent, neoliberal reforms strip the educational system from some of its progressively acquired partial autonomy from the power of economic capital, and re-subject it to a powerful economic logic.

Paradoxically, I would also argue that neoliberal education reforms have aimed at *limiting* the extent of academic competition facing socially privileged students in Australia. These reforms have contributed to ensuring that the academic competition facing advantaged social groups for scarce valuable credentials remains limited, by providing them with educational advantages inscribed in the structures of the school system. The arbitration of neoliberalism in Australian education has been overwhelmingly in favour of already privileged families (possibly with the exception of small portions of the reforms made by the Gillard government).

d) The peculiarity of Australian education: the power of economic capital

In his foreword to *The State Nobility*, Loïc Wacquant made a crucial point regarding the distribution of the different species of capital in different countries. He noted that, unlike in the French system analysed by Bourdieu in numerous publications, a “deep-rooted historic preponderancy of economic over cultural capital” existed in the United States (Wacquant, 1996 [1989], p. xiv). It is plausible that this claim could be applied to Australia as well: in the balance of powers between the different species of capital, one could hypothesise that economic capital has been dominant over cultural capital in Australia (partly because modern Australia is a young country, born in the industrial period of capitalism, but also because the cultural diversity brought about by the successive waves of migration has made the establishment of a strict hierarchy of cultural domination impossible). In recent years, neoliberal reforms have made economic capital an even more determining factor for acquiring cultural capital in Australia, a fact that has led to an increasing interweaving of the two dominant species of capital.

The role of economic capital in the reproduction of social inequality depends on (1) the social power of economic capital (including its usefulness in education), and (2) the social structures governing the transmission of economic capital (especially from parents to their offspring). Generically speaking, neoliberal policies (taking the form of taxation, inheritance, labour, or education reforms) have tended to increase both the social power of economic capital and its ease of circulation. In Australian education, most of the high-achieving corporate schools progressively raised their tuition costs far beyond the rate of inflation (when the cost of university education was also becoming onerous) at the precise moment when the distribution of economic inequality was becoming more unequal. As the economic resources necessary for accessing the best performing schools escalated, the share of the population capable of meeting these costs declined. In other words, this double movement in the education system and in society at large has contributed to making the school system more permeable to the power of economic capital for determining the reproduction of social inequality over generations.

If the autonomy of any social field is defined by its capacity to impose its own norms and rules against dominant and external social powers (e.g. economic, political, or religious power), as Bourdieu (1998a, p. 76) believed, then neoliberalism has clearly reduced the autonomy of the Australian education system from economic power. And as the acquisition of autonomy for more and more social spheres offers a protection against the risk of unilateral and society-wide subordination to one form of social power, the loss of autonomy of the education system from economic power is a mark of social regression in Australia¹⁰².

¹⁰² The increasing power of economic capital in shaping the structure of educational opportunities does not necessarily imply an equivalent decrease in the relevance of cultural capital in education. In fact, and as argued previously, the growth in the educational power of economic resources has led to the increasing imbrication of economic and cultural capitals, whereby economic capital has become more determining for acquiring institutionalised cultural capital: “a major feature of the neoliberal transformation of the school market has been a mutation in *the structure of prices for credentials*: both cultural capital and economic capital have now become important currencies for accessing specific educational locations where the acquisition of the most valuable credentials is facilitated” (Maire, 2015b, p. 199, original emphasis).

Chapter Ten

Changing Education: Pragmatics and Utopia

Inequalities of opportunity come into focus when we realize that some achievement or performance that was once deemed intrinsic to some persons and not to others is actually something that the “others” could strive for and achieve as well, if social institutions were structured in such a way as to give them the chance. Realizations of this kind expand the scope of social justice. They bring questions into the domain of social justice that were formerly understood to be foreclosed by intrinsic human differences. [...] In a growing range of contexts, what we once saw as social roles determined by intrinsic or inborn differences among people, we have learned to see as socially contingent differences in outcome that result in part from the forces that constrain different individuals’ opportunities. (Fishkin, 2014, p. 43)

In this final chapter, I propose a range of practical recommendations for limiting and potentially reversing the DP’s contribution to the reproduction of social inequality in Australia. After summarising the theoretical and empirical conclusions reached in all the preceding chapters, I briefly describe the moral principles adopted by the Australian governments for the provision and allocation of education. According to the discursive importance given by the IB organisation and Australian educational jurisdictions to the principles of equity and social justice, I propose some reforms of the distribution of the DP opportunity that would put it in conformity with these shared moral principles. I then draw on the implications of the results obtained in chapter eight to offer some suggestions for adjusting the structures of the DP curriculum and its comparative exchange value in the Australian context. After extending the argument to regimes of curricular alternatives in general, I return to the fundamental structures of the

educational order with the intention of offering some more radical thoughts on reforms necessary for structurally challenging the education-based reproduction of social inequality. Finally, I discuss some of the limitations built into this research and suggest some ideas for further research.

I. The DP opportunity in Australia: an overview

In order to contextualise the propositions that are provided in this chapter, it is useful to summarise the results accumulated in all the previous chapters. First, the education-based reproduction of social inequality rests on three essential features: (1) the occupational value of educational credentials, (2) the competitive allocation of scarce and hierarchically-organised academic titles, and (3) the unequal distribution of educational opportunities for students from different social backgrounds. Since the academic results of students determine their subsequent educational and occupational chances, it can be said that academic *outcomes* are a form of educational *opportunity*. Second, the DP can be conceptually understood as an *alternative curriculum* at the senior secondary level. The development of regimes of curricular alternatives is a recent and novel form of educational differentiation, qualitatively distinct from existing forms of differentiation such as streaming. Each new form of educational differentiation re-problematizes the two central questions regarding the education-based reproduction of social inequality: (1) the respective quality of each opportunity, and (2) the social distribution of each opportunity. A small number of Australian studies have suggested that the DP represents a high-quality educational opportunity in Australia, but also that the DP opportunity is not widely socially accessible in this country.

In chapter three, I argued for the conceptual and empirical importance of economic capital and cultural capital as key dimensions of students' inherited properties. These forms of inheritance are given more or less power to determine the distribution of educational opportunities in different educational systems. The intergenerational transmission of capital can be seen as a dimension of (conscious or unconscious) strategies of reproduction, which are the manifestations of the quasi-universal conatus of reproduction or betterment of social position in capitalist societies. I also pointed out the importance of adopting a comparative approach when studying the distribution of educational opportunities, for prestigious and sought-after academic

titles are positional goods available only in limited supply. The three major types of comparison performed in the subsequent chapters focused on (1) DP schools versus Australian schools overall (in terms of academic results, resources, and social recruitment); (2) the DP program versus the regular senior secondary program within DP schools (in terms of academic results and educational experiences); and (3) the comparative cognitive and cultural demands of the DP curriculum versus the Australian curricula. Assembling these diverse forms of comparison reveals that the supply, distribution, and value of curricular alternatives cannot be interpreted adequately without a comparative approach.

In chapter four, I analysed the *outcome* dimension of the quality of the DP opportunity. I demonstrated that the DP opportunity has been of superior quality in Australia. At the system level, I found that DP schools were academically superior to comparable Australian schools, in their Year 12 results as well as in their NAPLAN scores. At the school level, I established that DP students were, on average, more academically successful than non-DP students within DP schools. To that extent, the introduction of the DP alternative in Australia has led to an additional layer of educational stratification. Finally, I also revealed that DP students were aspiring to prestigious, sought-after, and profitable universities, degrees, and occupations. Their academic results sustained such high-end aspirations, so that their hopes and expectations had reasonable chances of being fulfilled.

In chapter five, I examined another dimension of the quality of the DP opportunity: the *DP experience* in Australia. At the system level, I found that the economic and human resources available in DP schools were far superior to the resources available in comparable Australian schools. The factual superiority of the DP opportunity, based on the academic results associated with DP schools, was thus supported by the privileged learning and logistical conditions in which the DP opportunity was made available. At the school level, DP students also revealed the qualitative superiority of the DP experience, as well as the fact that the superior quality of the DP opportunity was one of the main causes of their enrolment in the DP. At the end of the chapter, I noted that the two dimensions of the DP opportunity are related: better-resourced DP schools have led students to obtaining superior academic results. The quality of the DP opportunity can thus be partly explained by the quality of resourcing available in schools offering the DP.

After concluding the in-depth analysis of the *quality* of the DP opportunity, I turned to the *social distribution* of the DP opportunity. In chapter six, I showed that the DP opportunity has been available mainly in metropolitan corporate schools in Australia. The social topography of the student population in DP schools revealed that these institutions primarily served economically and culturally privileged families. Students from disadvantaged economic and cultural backgrounds were grossly underrepresented in these schools. At the program level, the analysis of DP students' questionnaire responses revealed that their parents were significantly more highly educated than the comparable Australian population. They also earned comfortable incomes that could be used for providing their offspring with educationally-relevant economic capital (in the form of high tuition fees, for instance). Finally, I noted that the social origin of students in DP schools was related to their academic results, as much as to the resources available for their education in DP schools.

In chapter seven and eight, I moved from the *description* of the contribution of the DP opportunity to the reproduction of social inequality, to its *explanation*. In chapter seven, I examined the DP curriculum in a comparative fashion (its science and mathematics subjects in particular), concluding that the DP cultural and cognitive demands were superior to the demands in the comparable curricula across Australia. These superior demands partly explain the social selectivity on cultural grounds associated with the DP opportunity.

In chapter eight, I found that the distribution of the DP opportunity across different schools was another essential explanatory factor for understanding the DP's contribution to the reproduction of social inequality, for it elucidated both (1) its social selectivity on economic and cultural grounds, and (2) the quality of the DP opportunity. In order to make sense of this distribution of the DP across the population of Australian schools, I examined the history of the IB organisation and the DP. In the parallel history of the Australian education system and the progressive permeation of the DP in Australia, I found that most of the growth in DP the number of DP schools in Australia had been linked to the neoliberalisation of the school system. More specifically, market reforms have underpinned not only the spreading of the DP in Australia, but also (1) its accessibility for different social groups and (2) the quality of the academic results associated with the DP. The DP has come to be available predominantly in high-fee, socially selective, and academically successful Australian schools, and the first-rate

exchange value of the DP credential for university entrance has added to the quality of the DP opportunity.

After establishing the critical importance of the *structures of the education system* for determining the quality of the DP opportunity and its social distribution, I outlined some theoretical implications of the development of regimes of curricular alternatives in neoliberally-shaped education systems in chapter nine. I first argued that the hierarchical nature of market models of education provision, structured around the ideologies of consumer choice and producer competition, is likely to reinforce (1) the unequal quality between different educational opportunities, and (2) the appropriation of the best opportunities by the most privileged social groups. In other words, I claimed that the market model of schooling facilitates the education-based reproduction of social inequality. The introduction of alternative curricula into a neoliberal educational system has every possibility of providing an additional possibility for the hierarchical structuring and stratification of the system, both academically and socially. Since curricular alternatives are, by definition, distributed on a theoretical 'choice' basis, they are bound to be caught up in the broader structural forces shaping the education-based reproduction of social inequality. The example of the DP in Australia supports these conclusions. I then rebutted both the supposed existence of generalised choice regimes, on one hand, and the reality of between-school competition, on the other hand, in Australian schooling. Finally, I concluded that (1) neoliberal reforms in Australian schooling have been a failure for creating a competitive market, and (2) they have largely deepened the degree of academic and social stratification between schools. Overall, the main consequence of neoliberal education reforms is that they have made the education-based reproduction of social inequality much easier for privileged social groups, against the prevalent moral opinion that educational opportunities and life chances should be distributed fairly.

II. Moral foundations of education politics

In the previous chapter, I explained that the distribution of scarce and occupationally useful academic credentials to students can only be a *political* decision, for it arbitrates between the desires of various social groups. Since there is no allocation of academic

results or credentials that would satisfy everybody's preferences, the political organisation of the distribution of sought-after credentials is presented as being built on moral principles. I will thus briefly mention one of the core moral principles meant, according to the Australian educational authorities, to guide the provision and allocation of education in Australia. In doing so, I will draw on a small number of references not mentioned earlier in the text, primarily taken from the fields of educational policy and moral and political philosophy.

In 2008, the Australian federal body in charge of education—the Ministerial Council on Education, Employment, Training and Youth Affairs—released the *Melbourne Declaration on Educational Goals for Young Australians*, a strategic plan for the future of Australian education with a 10-year horizon (Curriculum Corporation, 2008). Out of the two main goals of the declaration, the first one proposed to ensure that “Australian schooling promotes equity and excellence” (Curriculum Corporation, 2008, p. 7). In the document, ‘equity’ is not an insignificant aim amongst an extensive list of objectives: it is the very first word of the topmost goal of Australian education. In order to reach that goal, “all Australian governments and school sectors *must ensure* that socioeconomic disadvantage ceases to be a significant determinant of educational outcomes” (Curriculum Corporation, 2008, p. 7, my emphasis).

In the *Review of Funding for Schools* report released in 2011, David Gonski (2011, p. xi), chair of the panel of experts, concluded the first page of the report by stating that the funding arrangement for Australian schools should “ensure that differences in educational outcomes are not the result of differences in wealth, income, power or possessions”. In the ensuing *Australian Education Act* passed in 2013, the third sentence reasserts that “the quality of a student’s education should not be limited by where the student lives, the income of his or her family, the school he or she attends, or his or her personal circumstances” (Commonwealth of Australia, 2013, p. 2). All of these documents place the fair distribution of educational opportunities at the core of Australian education. They affirm that the education system should not contribute to the reproduction of social inequality. Logically, the DP opportunity should thus also be distributed fairly.

Auspiciously, the IB organisation seems more than willing to counteract the reproduction of social inequality to which its Diploma Programme contributes in Australia. In its 2013 Annual Review, celebrating its 45 years of existence, the IB

organisation (2014a, p. 1) chose to introduce the report by reiterating what has been its number one ambition for decades: to “create a better world through education”. Assuming that a ‘more equitable world’ qualifies as a ‘better world’ for the IB organisation, there is a consensus between Australian educational policy stakeholders and the IB organisation to work towards bringing fairness back into the use of the DP in Australia. As I remain faithful to the objectives of the IB organisation and the Australian educational authorities in the propositions put forward in this chapter, I am confident that these recommendations will be used for designing more equitable policies for the distribution of the DP opportunity in Australia. The objective of a fair distribution of educational chances is not limited to the DP. Nevertheless, for the sake of clarity, and because the DP is the paradigmatic case of a new form of educational differentiation (i.e. the emergence of alternative curricula), my recommendations focus on the DP case.

For the structures of the Australian education system to prevent ‘socioeconomic background’ from determining academic outcomes, the moral conception of justice required can draw on Aristotle’s reflections, where justice “consists in treating unequal people unequally” (Hollis, 1990, p. 17). For the policy planner interested in justice in educational outcomes, equalising *provision* is a blatantly discriminatory policy. Instead, it is equality of educational *opportunity* that matters, and it “requires distributing educational resources in such a way that the differential abilities of children to turn resources into educational achievement are compensated for, where those abilities are determined by circumstances beyond the control of the individual” (Roemer, 1998, p. 6).

Most proponents of equality of opportunity would argue that students are not responsible for the economic, social, and cultural capital they inherit from their parents. They are not responsible for their (mis)fortune in the lottery of inheritance. The inheritance of properties that function as resources for complex activities and practices (such as performing academic tasks) is largely determined genetically and environmentally, and children have virtually no control over these genetic and environmental dimensions. Since children are responsible neither for the environment in which they are placed, nor for their genetic properties, they are not responsible for their inheritance. We cannot hold children accountable for the social conditions in which they are growing up, for they do not create these conditions. Nor can we hold

children accountable for the lack of family support or aspirations that their parents place on their education. Holding a child accountable for her education outcomes means that she should “pay for it” (Roemer, 1998, p. 17) in terms of life chances. A reasonable conception of equality of opportunity implies that we have no moral right to condemn children to unfair life chances because of their parents’ endowments. When a student’s life chances are evidently determined by her economic and cultural inheritance, we take part of that student’s freedom away from her. We confiscate the right of self-determination of young people when we let inherited resources and unequal educational conditions determine their life chances. Children are not responsible for our collective failures in living up to our own discursive standards of equality of opportunity.

I do not have the luxury of delving into the moral underpinnings of this conception of educational justice further, as space does not permit it. This general statement of the principle of equity in educational outcomes suffices for the present exposé. Marie Duru-Bellat summarises the overall conception of equality of opportunity neatly:

Equity amounts to treating pupils in an unequal way precisely because they are unequal (notably because they face unequal starting conditions). In other words, a formal equality of treatment (at school) would be unfair as long as there are ‘objective’ inequalities (between families). (Duru-Bellat, 2014, p. 35)

This conception of equity generally leads to what is commonly termed ‘compensatory measures’, ‘affirmative action’, or ‘positive discrimination’. If we wish to promote equity of outcomes, compensatory structures ought to be established to counteract the disadvantage suffered by students who do not inherit resources and properties valued in the school system, or who do not benefit from a social environment conducive to academic success.

In the list of disadvantages which disadvantaged students are not responsible for, economic and cultural inheritance occupy a central place (alongside gender and ethnic properties), even in the eyes of the Australian educational authorities. It is therefore important to compensate for the economic and cultural liabilities of disadvantaged students in order to provide them with educational opportunities for academic success that are comparable to the opportunities available to other social groups. Given that academic results function as opportunities for future educational and occupational

opportunities, the fair distribution of life chances requires a fair distribution of educational outcomes, and not only of educational ‘access’. In the case of the DP, the fairness of the distribution would be assessed by comparing the academic results of students from diverse economic and cultural backgrounds (ATAR ranks, for instance), as well as their objective (i.e. statistical) chances of accessing and succeeding in the most prestigious and sought-after degrees. Evidently, this objective calls for system-level reforms as much as school-level ones.

III. The supply and consumption of the DP

Throughout this work, I have demonstrated that the contribution of the DP to the reproduction of social inequality in Australia operates at two levels in the school system: (1) via the profile of DP schools (system level), and (2) through the profile of DP students within these schools (school level). In 2009, the IB organisation (2009a) published the results of its *Diploma Gap Study*, a research project aiming at evaluating the hurdles preventing the DP from being more widely spread in the US. The report contains a number of important strategies for making the DP more equitable, and I strongly recommend its reading to Australian education policymakers in charge of organising the distribution of educational opportunities. However, its potential for concretely informing the Australian situation is limited. In the United States, the study found that disadvantaged students were not underrepresented in DP schools (International Baccalaureate, 2009a, p. 3). This presents a stark contrast with Australia, where socially disadvantaged students are largely excluded from DP schools (see chapter six). In other words, while the major solution to make the DP equitable in the US may require alterations to the DP provision and allocation within existing DP schools, in Australia, it is the *transformation of the landscape of DP schools* that should be the priority.

1. System-level reforms

The most important rule for making the DP an equitable alternative in neoliberally-shaped education systems is to depart from the *laissez-faire* model of its implementation in schools. This model is the major obstacle to a more socially fair provision and allocation of the DP in Australia, as it grants superior power to schools with more resources. Given the particularly vast degree of resource inequality between schools in Australia (see chapter five), it is not surprising to see a clear underrepresentation of disadvantaged schools in the population of DP schools. The principle of ‘choice’ for schools to implement the DP has the same deleterious consequences as the regime of choice that governs student enrolments in schools: it makes market power and resources the primary determination of market chances and opportunities. The fact that the *laissez-faire* approach to DP implementation has inserted the program into the system of reproduction of social inequality proves that any similar alternative education program runs the risk of being taken up and caught in the same process, if it is provided without deliberate planning mindful of the distribution of educational opportunities to different social groups. The *laissez-faire* provision of the DP contributes to the concentration of advantage in some places and to the disaffection and residualisation of others. Without such a regime of choice, the DP provision could be made far more equitable in Australia. A system-wide change has to take place for distributing the educational opportunities provided by different curricula equitably.

One possible solution for mitigating the contribution of the DP to the reproduction of social inequality in Australia would be to limit the availability of the program, that is, to regulate the number of schools offering and students opting for the DP. This solution would certainly be the most realistic one for containing the extent to which the DP reshapes the senior secondary educational opportunity structure. However, it would not make it possible to use the DP as a lever towards a fairer overall social distribution of educational opportunities. The preliminary condition for a change of this magnitude would be a strong collaboration between the IB organisation and the Australian education jurisdictions, but also between the federal and state governments. The IB organisation would gain from developing a partnership with the educational authorities at the federal and state levels. Such a partnership is the most realistic and promising goal for making the DP equitable in Australia, as the IB organisation is both (1) in a particularly advantageous position for developing this type of cooperation, and

(2) willing to engage in concerted actions with policy makers. First, as George Walker (2002, p. 96) noted, “the IBO is strongly placed to collaborate with national governments”, especially because of its existence in numerous countries and its thriving reputation. Second, the IB organisation (2015a, p. 5) welcomes an “engagement with education policy makers worldwide”; it “strongly believe[s] in collaborative partnerships” (International Baccalaureate, 2014a, p. 3); and it is committed to making a “clear and determined effort to work closely with influential bodies around the world” (International Baccalaureate, 2015a, p. 5). The sheer inequity of the DP in Australia offers a great opportunity for the development of a collaborative partnership with Australian education jurisdictions.

A first system-level proposal would be to make the DP accessible only to socially mixed schools, where students from disadvantaged social origin would be adequately represented. This principle could provide with one of the easiest way of avoiding the capture of the DP opportunity by schools in which students from privileged social origin are significantly overrepresented. However, this proposal would mean that many of the currently accredited DP schools would not be able to continue offering the DP if they retained their socially selective intake. To that extent, such a model seems partly unrealistic in the current situation of the DP in Australia.

If the DP accreditation for Australian schools could not be made conditional on a socially inclusive student enrolment, I propose the launching of a ‘DP Equity Program’ campaign in Australia. The DP Equity Program would be destined to bring the DP curriculum, with adequate levels of resourcing, to schools and students who are currently excluded from it. This could benefit the reputation of all parties involved, especially the various departments of education across Australia and the IB organisation. The campaign could be made up of four successive stages. First, disadvantaged schools would be contacted to enquire about their interest in the possibility of implementing the DP, with financial support, as part of a ‘DP Equity Program’. Second, a thorough consultation with the school communities in the selected institutions could lead to determining the appropriate levels of resourcing—including human resources—to be provided as part of the DP Equity Program. Third, the operation of the DP in disadvantaged schools would be trialled for evaluating its practicalities in context. Fourth, the DP would be implemented and the comparative

results of schools and students would be regularly monitored to adjust the provision and resourcing of the DP program in different settings.

As the reader may have noticed, the DP Equity Program does not imply that the DP should be imposed on schools unwilling to offer such an alternative. The two extremes of *laissez-faire* and authoritarian imposition are not the only options available in terms of allocation. In contrast, as part of the DP Equity Program, I advocate for a campaign informing disadvantaged Australian schools that a fruitful collaboration between Australian governments and the IB organisation has led to an ambitious plan of implementation of the DP in underprivileged institutions *with guarantees of satisfying levels of resourcing*. These schools would be invited to submit an expression of interest in the DP. This expression of interest would then be conjointly evaluated by the Australian education authorities and the IB organisation. The expertise of the IB organisation would be useful for visiting the selected schools and identifying the challenges to be overcome and needs to be met in order to make the DP a success in these schools. This could include staffing provision, additional financial resources, staff training workshops, and networks of support and collaboration between schools, DP coordinators, teachers, and students. In order to be granted an equal opportunity of DP success, the schools taking part in the DP Equity campaign and enrolling more disadvantaged students than the current DP schools should receive more resources for helping their students in meeting the demands of the DP curriculum and examinations. Importantly, the Australian educational authorities and the IB would commit to covering the costs required for enabling these schools to create the conditions for them to become academically competitive with the more privileged DP schools.

Given the current distribution of economic and cultural advantage and disadvantage across school sectors, government schools would undoubtedly represent most of the disadvantaged schools selected in the 'DP Equity Program'. At the same time, DP students in disadvantaged schools should be given chances for academic success equivalent to the chances available to DP students in advantaged schools. To that effect, the Australian education authorities and the IB organisation would need to ensure that the schools engaged in the 'DP Equity Program' were able to offer a range of subject for their students to choose from. A variety of subject options should span all six subject groups of the DP curriculum, and the assortment should be as wide-ranging as it is in more privileged Australian DP schools. This requirement makes the provision

of additional human resources to disadvantaged schools essential for the success of the DP Equity campaign.

Many disadvantaged schools in Australia already face harsh financial conditions and frequent staffing shortages. The DP Equity Program would be deemed to fail if it added a supplementary human and economic resource burden on already-struggling institutions. Schools should be assured that the additional needs incurred by the implementation of the DP would be met by a joint commitment of the IB organisation (which could collect very little or no affiliation and professional development fees from the schools that would be part of the DP Equity Program) and the Australian governments (which could provide additional staffing and financial resources). Implementing the DP in disadvantaged schools without providing the resources necessary for making it successful would be a recipe for failure. Eventually, the implementation of a targeted policy for disadvantaged schools as part of the DP Equity Program could be inserted into a broader needs-based funding model for disadvantaged schools.

The crucial importance of resources for the academic success of students should not be underestimated. Against the recurring counterfactual political statements on this matter, the OECD (2013c, p. 43) reminds us that “much of the impact of socio-economic status on performance is mediated by the resources invested in schools”. Even though the role of inherited capital in the reproduction of social inequality is not reducible to its nurturing conditions in schools, an equitable investment of resources in schools, where the institutions with the highest needs are provided with the best resources, is a necessary—but not sufficient—condition for limiting the role of inherited properties in the distribution of educational opportunities.

The DP can be an academically successful program in disadvantaged schools, where it would enrol mainly disadvantaged students. In the US, there are many disadvantaged schools that offer the DP and graduate most of their less academic DP students. Schools enrolling a large proportion of ethnic minority students; schools with a student population where English is generally not the first language; and schools with a majority of low socioeconomic background students: the DP exists in all these categories of schools in the US. Despite their social disadvantages, some of these schools attain a DP pass rate superior to 90 percent (International Baccalaureate, 2009a, p. 5; 9). Implementing the DP in disadvantaged Australian schools can contribute to

making this alternative curriculum more equitable, and the DP can be a viable program in disadvantaged Australian schools. Moreover, it could also contribute to challenging educational inequity more broadly.

Interestingly, implementing the DP in disadvantaged schools could have another positive consequence on equity. If the DP Equity Program were to prove significant, it could contribute to (1) reducing the economic and cultural segregation between schools, and thus (2) limiting the role of inequality between schools in the reproduction of social inequality. A high-quality program with appropriate levels of resourcing could appeal to middle-class families who could consider enrolling their children in a disadvantaged school and thus partly reverse the ongoing phenomenon of desertion that affects disadvantaged schools in Australia (Bonnor & Shepherd, 2016b, pp. 28-29). Perry and McConney (2010, p. 83) suggest implementing programs such as the DP in disadvantaged schools as a way of making them more attractive to more privileged families and thus improving the social mix in these institutions. Given that attending a more privileged school improves the academic performance of disadvantaged students, no matter their own level of performance, the DP Equity Program could have a broader impact on the distribution of education opportunities across Australian schools. If that were to occur, however, it would be important to ensure that the DP program remains accessible to, and predominantly populated by, disadvantaged students (in these schools).

However, focusing on recruiting new disadvantaged schools to participate in the DP Equity Program would be insufficient. This measure could contribute to rebalancing the economic and cultural profile of the DP in Australia, but it would not alter the profile of current DP schools. It would be no more than a ‘campaign’, for it would not challenge the deeper structures that determine the inequality profile in the DP provision in Australia. Accordingly, the DP Equity Program could be seen as a first milestone towards a more general reshaping of the DP affiliation and fee policies in Australia.

There are several possibilities for transforming the DP affiliation and fee policies in order to progress towards a more equitable curricular alternative landscape in Australia. One possibility would require schools wishing to implement the DP to engage in ‘partnership applications’. The implementation of the DP in any privileged school would be conditional on establishing an association with a disadvantaged school, where the advantaged school would commit to providing resources and support—

including staffing and economic resources—to the less privileged institution. This could take the form of a ‘DP sponsoring’ model, where privileged schools would be allowed to use the DP if they contributed to its fair provision by teaming up with disenfranchised schools.

Such a reform would be promising, but it is exposed to numerous logistical issues that I cannot detail here. Still, the most persuasive solution for making the DP a less inequitable curricular alternative in Australia would arguably be a *progressive scale of fees* for schools and students based on their resources. Poorer schools would be asked for a smaller contribution for implementing the DP and training their teachers than wealthier schools would. The scale of fees could be specific to Australia and developed conjointly by the IB organisation and the Australian education authorities. A simple mathematical formula could be used to determine the school’s level of affiliation and professional development fees, based on its income-per-student and proportion of socioeconomically disadvantaged students enrolled¹⁰³. It could be a very simple progressive system, with income-per-student brackets matched with corresponding levels of fees, in order to better serve Australian students and schools in an equitable way. The same principle could be applied to the examination fees asked of DP candidates.

The IB organisation has been reluctant to developing a progressive scale of fees up to this point. The major argument has been that the issue of fluctuating exchange rates makes this progressive approach impractical at the global level. For instance, Ian Hill (2003 [1986]-b, p. 306) claimed: “implementing a sliding scale of IBO annual fees is not the answer. It has been discussed on several occasions and it would create more problems than it would solve. Soft currencies are notoriously fluctuating and unpredictable”. This argument is, however, not relevant for the present proposals. I do not propose a progressive scale of fees at the global level in this work; I simply suggest a progressive model for Australia. Schools are not free to choose the currency they use for paying their annual DP fees: in Australia, it is in Singaporean dollars that payments are to be made (International Baccalaureate, 2016e). Accordingly, the fluctuating exchange rate is irrelevant to the issue of the inequality of a flat fee being applied to all

¹⁰³ The modalities of attribution of a school to a certain position in the scale of DP fees I propose here are purely indicative. The Australian education authorities and the IB organisation could decide to use the ICSEA rather than the proportion of students from the lowest socioeconomic quartile, for instance.

Australian schools. Adopting a progressive rather than flat scale of fees would make the provision of the DP to schools fairer in Australia, in a simple and effective way.

2. School-level reforms

System-level reforms for preventing the DP to contribute significantly to the reproduction of social inequality in Australia are essential. I have enumerated some policy reforms that seem most promising for distributing the DP opportunity more equitably in Australia. Nevertheless, system-level reforms should be supplemented by school-level reforms. Simply offering the DP in disadvantaged schools without monitoring its use within schools would be insufficient, as this laissez-faire model might lead to a stronger differentiation of provision within schools. It is only if the DP benefited the school population at large, *starting with its least advantaged students*, that the DP's contribution to an equitable Australian education system would be significant.

The structures of the Australian education system and the related landscape of DP schools in Australia make system-level reforms a priority. But the working of the DP program inside schools cannot be ignored. For the DP Equity Program to be successful, it would also be essential to prevent the DP from becoming an elitist track within disadvantaged schools. Its overt academic and social selectivity should be prevented. In other words, it would be crucial to ensure its widespread accessibility for disadvantaged students. To that effect, economic and academic selection procedures for enrolling in the DP should be discouraged and open enrolment policies should be promoted. These simple steps would dismantle the most obvious forms of social selectivity into the DP.

System-wide reforms could be supplemented by DP policies targeting disadvantaged students. In the *Diploma Gap Study* in the US, schools with a substantial share of students from low-income families had only a small portion of their students enrolled in the DP. Moreover, the pass rate of low-income students was inferior to the pass rate of more economically endowed families (International Baccalaureate, 2009a, p. 1). If the landscape of DP schools in Australia were to become representative of the population of Australian students, the relevant educational authorities would need to remain mindful of covert and unintended exclusionary dynamics that could emerge within schools. The DP should not be turned into an academically elitist track inside

schools; nor should it become an enclave for economically and culturally privileged families.

In order to monitor the *social* use of the DP, all DP schools could be asked to include a given proportion of disadvantaged students in each of their DP cohorts. The actual ratio would depend on the overall socioeconomic profile of the school¹⁰⁴ and could draw on the instruments used by ACARA for determining students' socioeconomic background. Schools should also be proscribed from collecting additional fees for students to enrol in the DP.

In order to monitor the *academic* use of the DP, academic selection procedures for accessing the DP should be prohibited. All students should be welcome to choose this alternative if they wish, no matter their previous academic performances. These proposals are in line with the position of the IB organisation (2009b, p. 21), for it considers that “the Diploma Programme is not for an academic elite and that all students who can benefit and succeed should be encouraged to take part”.

This entire section on the supply and consumption of the DP offers an array of options from which the IB organisation and the Australian education jurisdictions could draw to improve the equity record of the DP in Australia. If the three main categories of institutional agents (federal government, state governments, and IB organisation) adopted the core principles outlined here, the combination of system-level and school-level reforms would have a strong potential for making the DP a realistically equitable alternative in Australia. Yet, the watchful reader would certainly have the conclusions of chapter seven in mind. She could criticise the proposals put forward in this section and argue that these reforms of the provision of the DP opportunity ignore the cultural and cognitive demands of the DP curriculum. These demands make the program socially and academically selective on cultural grounds in a way that is irreducible to the neoliberal organisation of the Australian education system.

This critique is absolutely valid. If the objective is a fair distribution of the DP opportunity, a reform of the DP curriculum needs to accompany the reforms of the structures regulating the distribution of the DP alternative to various schools and students.

¹⁰⁴ In the US, an example given in the *Diploma Gap Study* showed a school instituting a threshold of at least 15 percent of “high-need students” in the DP cohort (International Baccalaureate, 2009a, p. 5).

IV. The DP curriculum

As I explain at length in chapter seven, any curriculum embodies a selection of knowledge and skills from a far wider pool of bodies of knowledge and competencies. Since knowledge and skills are unequally distributed in society, making any curriculum closer to the cultural and cognitive dispositions and practices of some social groups rather than others introduces a form of social inequality directly into the curriculum. Of course, the choice of certain types of knowledge and skills for constituting a curriculum follows not a scientific process but a normative one. That is why Bourdieu reminds us of the ‘cultural arbitrariness’ of any type of formal education. Connell (1993, p. 35) confirms that “no selection of knowledge or method is neutral with respect to the structure of the society in which it occurs”. Therefore, making the education system more equitable also requires minimising the cultural bias built into the curriculum and shaping it to be as socially harmonious as possible, by giving a fair chance of mastering the demands of the curriculum to all social groups.

In the case of regimes of curricular alternatives, reflecting on the social fairness of curricula cannot ignore the academic profitability of each alternative. Therefore, the IB solution of creating a Careers-related Program (CP) alongside the DP is irrelevant for making the DP more equitable, since the CP does not have the same academic value, does not enrol the same categories of students, and does not provide the same quality of educational opportunity than the DP. There are multiple elements of the DP curriculum structure that make the program socially selective on cultural and cognitive grounds. However, it would be of little interest to construct a culturally fair DP curriculum *in abstracto*, for it is the status of the DP as a curricular *alternative* that determines its relative selectivity. In that regard, I will simply propose some lines of reform likely to reduce the supplementary cultural and cognitive selectivity of the DP compared to the state curricula¹⁰⁵. Of course, these proposals do not imply that the resulting DP curriculum structure would be as culturally fair as it could theoretically be.

¹⁰⁵ Since the uniformity of the DP curriculum across countries is an important principle for the IB organisation, it must be acknowledged that the propositions developed in this section are, realistically, best conceived as themes and topics for discussion—including for the IB organisation—rather than as a

At a very general level, it is the requirements of the subject choices that are the most culturally selective. The fact that students are asked to select one subject from each of the six subject groups, as well as three core components, makes the DP highly demanding on cultural and cognitive grounds. A more liberal model of subject selection by students would lead to a more diverse range of cultural and academic profiles to be represented in the DP. Offering DP students greater flexibility in choosing their subjects could be a first step for making the cultural and cognitive demands of the DP fairer. Given that the DP overall score is converted into an ATAR rank (the latter being used as a reference for selective university entrance), allowing students to choose the subjects contributing to their DP score more freely is essential for diminishing the cultural arbitrariness of the current DP curriculum structure and ensuring its greater equity.

The structure of Group 5 (Mathematics) is the second major issue to consider for enhancing the social fairness of the DP curriculum. Not only are there only four subjects theoretically available for DP students in Group 4 (International Baccalaureate, 2016h); more importantly, they are all mathematics in a form or another. There is no obvious reason for mathematics to have an entire subject group to itself. It is the subject group with the lowest number of options for students, and it is the only subject group including a single academic discipline. In The Arts, by contrast, dance cohabits with four other disciplines. In order to make Group 5 more equitable, it should include subjects based on other disciplines than mathematics¹⁰⁶. In addition, Mathematical Studies should be made available in all Australian IB schools, for it is no doubt the least socially discriminating of DP Mathematics subjects.

The third major social bias in the current DP curriculum is the fact that studying an arts subject is optional. This unfair treatment of different categories of cultural activities has no logical justification. There is no reason for Group 6 to be optional while all other subject groups are compulsory. The study of music, visual arts, dance, theatre, and film should be encouraged as much as the study of other types of subjects, especially since some of them may be less cognitively and culturally discriminating

ready-made reform package. The current structure and regulations shaping the DP curriculum are the result of a long process of curriculum development and adjustment, and the symbolic capital associated with the DP partly depends on its overall structure (including the breadth and depth of study expected from all DP students). Yet, the consequences of this structuring on the social accessibility of the DP cannot be ignored if the DP is to contribute to a fairer social distribution of educational opportunities.

¹⁰⁶ For instance, Computer science was initially available in Group 5 (Mathematics) before its transfer to Group 4 (Sciences).

than the more traditional academic subjects. Arts subjects have a great potential for counteracting the dominant abstract and theoretical logic present in the most academic disciplines and its ensuing social bias. For arts subjects to fulfil their socially inclusive potential in the DP, it is also important for the IB organisation to ensure that these practice-based subjects are not transformed into abstract and theoretical subjects, notably by avoiding the theoretical framing of their assessment. Finally, new arts subjects (including new types of visual arts and crafts) could also be developed by the IB organisation.

The fact that all subjects groups are compulsory, except for The arts, is possibly the most socially exclusive provision of the DP curriculum structure. This issue is amplified by the fact that a large variety of subjects exists in a group such as the Arts, while Group 5 contains only four subjects based on one single discipline. The inconsistency in the compulsion of most subject groups combined with the optional status of the arts needs to be revised. Several options are available here. In terms of equity, if only one subject group should be made optional, it would have to be Mathematics, as it is the most academically discriminating and culturally narrow subject group (see ‘Mathematics subjects in the DP’ in chapter seven). This would represent a first step in the right direction. However, I doubt that this would grant much more freedom to the emergence of more varied DP student profiles. One could alternatively wish to make all students choose one subject in each of the six subject group without any exception. This solution may seem appealing. However, it would leave the DP far more demanding than the state curriculum alternatives, a fact that would inevitably lead to a certain cultural elitism in the DP. Moreover, limiting the study of science subjects to a maximum of one—a consequence that would follow making the study of all subject groups compulsory—would sit uneasily with the subject requirements for accessing some selective university courses.

A more appealing option would be to grant students more freedom for reaching the total of six subjects they are asked to select (admitting that we see the curriculum structure of six subjects plus three core components as an adequate DP model). A promising solution would simply extend the current model of choice to all subject groups: students would be asked to study six subjects from a minimum of five different subject groups, with no further restriction. Students would then be allowed to choose two arts subjects plus four other subjects, without necessarily choosing a mathematics

one, for example. This model could preserve the breadth and rigor of the curriculum DP structure that appeals to many educators and partly supports the reputation of the DP. At the same time, it could eradicate the most blatant cultural inequalities built into the DP curriculum. If the requirement of five different subject groups was found to remain excessively discriminating, it could be reduced to six subjects from a minimum of four subject groups. Finally, for the different groups of subjects to genuinely have the same *value*, the IB organisation should harmonise the scores across groups¹⁰⁷.

At this point, I have mainly addressed the cultural bias present in the DP curriculum structure. The other major social limitation of the DP resides in its cognitively biased structure. Improving the cognitive inclusiveness of the DP would no doubt require very thorough reforms, and I will not detail the implications of this project for each subject. Nevertheless, I can provide brief indications for ameliorating the range of skills valued and expressed in the DP. First, the practical dimension of Group 6 subjects makes it essential for this group to take a much more central place in the DP. Second, the formalised and abstract structure of science and mathematics subjects in the DP curriculum as a whole—a feature certainly not unique to the DP—could be countered by offering subjects in which manipulation and experience-based learning would have the upper hand. These forms of learning could be valued more significantly in most subject groups. Relatedly, it would be crucial to transform the assessment of DP subjects, by giving more weight to practical examinations, collaboration, and teamwork. In turn, this would decentralise the assessment model of the DP and give more autonomy to schools and teachers. Third, transforming the current cognitive profile of subjects—especially in Group 4 and Group 5—could make the DP more socially inclusive. Fourth, the DP curriculum would gain from integrating more interdisciplinary subjects (i.e. subjects that could be used for one subject group or another, at the student’s discretion). Finally, the IB organisation could also integrate vocational studies directly into the DP curriculum. The separation of the Career-related Programme (CP) and the Diploma Programme (DP) is unfortunate, for it perpetuates the simplistic dichotomy between theory and practice and contributes to a hierarchical order between theoretical skills and practical competencies. Vocational subjects fully deserve a space in the DP curriculum.

¹⁰⁷ If this procedure were successful, a further standardisation could take place between different subjects within a group, and between Standard Level and High Level versions of a subject.

V. Alternative curricula and the DP exceptionality

I have proposed some instruments for making the DP a significantly more equitable alternative curriculum in Australia. However, I have not addressed the more elementary question that underpins most of the discussion. From an equity point of view, should curricular alternatives be available to students at all? Here, too, it is not only a collective and political decision that should underpin the judgement regarding the legitimacy of alternative curricula. Although answering this question goes far beyond the scope of this analysis, a pragmatic approach for discussing the DP position in the Australian education system can be of interest for reflecting on its equity potential.

As I have argued in this work, the value of curricular alternatives is heavily dependent on their context of implementation. The social topography of access to any alternative curriculum is determined by the structures of the education system in which it is distributed. In a neoliberally-configured education system, where the supply and consumption of alternative curricula is left to 'choice', authorising their implementation runs the risk of (1) limiting the possibility of making the alternative available for less affluent and resourced market agents, and (2) letting extra-educational factors, such as cultural capital and economic capital, determine who chooses the alternative and who does not. Neoliberally-shaped education systems thus seem poorly adapted to a fair provision of the educational opportunities that curricular alternatives represent. Outside of this particular configuration of education systems, however, curricular alternatives have the potential for increasing the degree of cultural freedom enjoyed by students and their families. Of course, this possibility is determined by (1) the comparative demands of these curricula, and (2) the quality of their opportunity (including their exchange value).

Alternative curricula can easily become exploited as instruments of tracking (or streaming) if their implementation and distribution is not strategically planned. To that extent, examining the structures of an education system with the intention of analysing its contribution to the reproduction of social inequality requires the researcher to compare the various curricular options available, the populations they enrol, and the future educational and occupational opportunities they open. At the most general level,

the discursive importance accorded to equity in the objectives of Australian education policymakers implies that departing from the comprehensive model of schooling and curriculum provision can only be justified if it permits giving more to those who have less (or at least if it does not leave them worse off—in comparative terms—than in an integrated system). For that reason, a complete shift in DP provision towards a compensatory model of curricular alternative is necessary for making the presence of the DP in Australian consistent with the moral principles supposed to underpin the structures of the education system. The current position of the DP in the Australian education system offers a unique chance for progressing towards a more equitable distribution of educational opportunities at the senior secondary level in Australia.

Most of the time, alternative education reforms fail to become more than rare and exotic educational substitutes, because they do not succeed in accumulating the credit of recognition necessary for decisively weighing on the structures of the education system more broadly. For example, the ‘alternative schools’ that emerged in the 1970s and 1980s in Victoria, based on the philosophies of Steiner and Montessori, did not accumulate enough capital of recognition for challenging the broader educational structures, even though they essentially catered for dominant social groups (Windle, 2015, p. 153). The main reason for the failure of such educational alternatives was their incapacity to infiltrate the very core of the education system and transform the social distribution of educational opportunities. In modern education systems, it is the *credentialing function of education* that resides at the core of the school system. Educational reforms that do not accumulate enough legitimacy for claiming a distinctive credentialing power, necessary for challenging the credentialing system in place, are unlikely to contradict the education-based reproduction of social inequality.

In Australia, promising developments towards a redistribution of credentialing power occurred in the 1970s. In Queensland, for instance, the emergence and spreading of an “alternative credentialing system” started to challenge the traditional educational order (Windle, 2015, p. 153). In Victoria, a small number of government schools collaborated on the development of an alternative Year 12 credential in the late 1960s and early 1970s (Marginson, 1997a, p. 53). The Victorian Secondary Teachers Association even proposed to replace academic selection by ballot selection as the core mechanism regulating the accession to sought-after university courses (Marginson, 1997a, p. 53). However, the idea of challenging academic selection as the central

selection procedure into universities was a radical proposal to most, and it remained no more than a proposal. In the same vein, most of the alternative credentialing reforms remained localised (in disadvantaged schools) and never gained the wider legitimacy necessary for upsetting the traditional reproduction of social inequality. This has led Windle (2015, p. 160) to assert that “there is no vertical integration of alternative curriculum into the final years of secondary school”, implying that no senior secondary alternative credential has accumulated sufficient legitimacy to be considered as a pre-university qualification on par with the state curricula. There is now, in fact, one exception to this claim: the International Baccalaureate Diploma Programme.

The history of failed experiences of alternative education credentials can prove deeply insightful for understanding the unique power of change that the DP program holds in Australia. The *symbolic capital* of the DP is the highest amount of recognition credit ever accorded to an alternative curriculum in Australia: it is accepted by most universities, it is perceived as equal or superior to the state curricula, it converts directly to ATAR ranks, and it has a track record of academic success in the country. All these sources of DP recognition make the program a privileged instrument for contradicting the reproduction of social inequality through education in Australia. Beyond its value for understanding alternative curricula in general, I have also chosen to devote my attention to the DP because it constitutes one of the most powerful instruments for a realpolitik of educational change in Australian secondary education. “The IB could offer a better contribution to educational equity if it became more politically engaged (Tarc, 2009, p. 122), and “its privileged position allows it to set the tone [...], should it so wish” (Leaton Gray et al., 2014, p. 5). The IB organisation is a well-established, highly autonomous, and influential educational institution enjoying a high-quality reputation. This position is uniquely valuable, and it places the IB organisation in an ideal position to address the issue of educational equity in Australia.

Given that the DP is associated with better academic outcomes than the state curricula in Australia, it benefits from a significant amount of capital of educational recognition (or symbolic capital), including in the eyes of most university staff. This resource is one of the most precious instruments the DP possesses for making the program a champion of equity in senior secondary education in Australia. The DP could become the leading power in the struggle against the education-mediated reproduction of social inequality. The DP could accomplish this by giving more to those who have

less, that is, by educating disadvantaged students with the best resources and helping them to obtain the best educational and occupational opportunities. Most of the policy proposals I have offered in this chapter assume that the education received by DP students can make them better off than the study of their local curriculum. One strategic reason for relying on this assumption is that it is more politically realistic to change the provision and allocation of the DP than to call for a complete transformation of the state curricula¹⁰⁸. Accordingly, if the DP were implemented on a compensatory basis, it would be imperative to regularly ensure that disadvantaged students do benefit from the DP in terms of educational chances (i.e. that the quality of the DP opportunity would not be degraded).

Of course, the greatest strength of the DP for educational equity could also become its weakness. It is only to the extent that it can preserve its symbolic capital that the DP can succeed in challenging the extent of the reproduction of social inequality via senior secondary education. It can be legitimately feared that the DP Equity Program may prompt a change in (1) the recognition of the program by Australian universities, (2) the conversion table between DP scores and ATARs, or (3) the positive value of the DP title in university admission decisions. Catherine Doherty (2009, p. 86; 2013, p. 395) contends that the social elitism of the DP partly conditions its symbolic power, and I find this conclusion eminently plausible. Nevertheless, the DP Equity Program campaign would be beneficial in any case.

If the DP Equity Program succeeded in championing academic success in disadvantaged schools with underprivileged students, it would become a success story for the possibility of progressing towards educational equity in Australian senior secondary education. It would also contribute to minimising the DP's contribution to the reproduction of social inequality in Australia. If it failed because of a loss of symbolic capital for the DP, the campaign would confirm that the credence in the value of this alternative curriculum rested more on its social and academic elitism than on its curricular qualities. As Monique de Saint-Martin (1971, p. 126) put it, this experiment would then prove that what governs the predictive value of a credential may reside less in its curricular content, or the type of teaching delivered, than in the 'social quality' of those receiving it. If the overall quality of the DP opportunity, including the exchange

¹⁰⁸ At this point in time, senior secondary curricula are still administered by the Australian states and territories, despite the increasing role of the federal Department of Education and Training in shaping the curricula being taught at different levels in Australian schools.

value attributed to the DP credential by tertiary education authorities, declined following the launching of the DP Equity Program, it would also challenge the contribution the DP had made (up until that point) to the reproduction of social inequality. In other words, in both scenarios, the net result would be a reduction of the DP's contribution to the reproduction of social inequality in Australian education.

The DP will not save Australian secondary education from its overinflated socially reproductive function. So far, the program has a limited scope of action, and its potential for equitable growth requires a long-term approach that sits uneasily with the frenetic rhythm of the Australian political agendas. Unquestionably, the DP cannot neutralise the accumulated inequality of educational opportunities at the primary and junior secondary levels between students from different economic and cultural backgrounds. The past educational opportunities available to students will continue to determine their future educational opportunities. Making the DP the champion of disadvantaged students at the pre-university level is certainly not enough to fix the broader school-based reproduction of social inequality, and yet, this is not a valid reason for refusing to make a step in the right direction. Transforming the contribution of the DP to the distribution of educational chances to different social groups is an auspicious place to begin for reforming the socially reproductive function of the Australian education system. And it would certainly be far more rewarding for the IB organisation to see its program actually 'creating a better world' than seeing it turned into an instrument for the intergenerational reproduction of social privilege.

VI. On the educational order

Compensatory education and targeted campaigns for disadvantaged students are often politically unpopular. In addition to the common opposition of the advantaged classes to policies challenging the power of their resources in shaping the intergenerational reproduction of their privileges, compensatory education measures are also resented by most of the middle and upper-middle classes, who rightly fear that these measures frustrate the advantage they have painfully secured over the lower classes in the race for academic credentials, via private schooling, out-of-school tutoring, or 'excellence program'. In that regard, compensatory education programs are no different to other

redistributive justice measures alleviating the most blatant disadvantages suffered by the lower classes: they are politically unpopular as they seem to contradict a state of distribution of resources that spontaneously appears as legitimate to much of the social spectrum. As Bourdieu and Wacquant (1992, p. 168, original emphasis) admirably summarise it: “of all forms of ‘hidden persuasion,’ the most implacable is the one exerted, quite simply, by the *order of things*”. Historicising the ‘order of things’ reveals the arbitrariness of the distribution of the pie between different social groups to the social scientist; but this instrument is generally not part of the common-sense ways of thinking about the distribution of educational opportunities.

Most politically conservative and ‘liberal’ agents seem to hold a crucial belief in common: they embrace a conception of educational freedom largely reduced to the idea of ‘market freedom’ (see chapter nine). It is not surprising to see that upper and upper-middle class families generally support a generalised ‘market freedom’ when it comes to distributive matters in education, for it is precisely this conception that supports the perpetuation of their more or less sizeable amount of acquired privilege. In the educational sphere, privileged families have an objective interest in a negative conception of freedom. Given the extra resources they possess, these “parents are content with a social order whose notion of equality of opportunity means a flying start for their own children” (Hollis, 1990, p. 23). As these families want to shelter themselves from full-blown educational competition, they correctly perceive—even though they rarely phrase it as such—equity measures as attempts to increase the academic competition faced by their offspring. To that extent, the transformation of the distribution of educational opportunities between various social groups can only emerge from a political struggle against dominant conceptions of the educational order.

It is politically comfortable for most to stay content with the unfair order of things, especially as the majority of politicians belongs to the very social classes their policies privilege. Yet this comfort does not imply the moral rightness of the subsequent policies. In education, as in other social spheres, the degree of social justice at one point in time is the result of past struggles between social groups endowed with unequal political power. Policies adopted today can worsen, as much as they can improve, the chances afforded to different social groups in the future. As long as persistent and unfair inequalities can be identified, living up to reasonable standards of equity calls for relentlessly questioning the order of things. Rather than taking it for granted, a

critically-minded citizen must see the order of things for what it is: one historically constituted and contingent state of things amongst a (finite) number of possibilities. The logical implication of this simple premise is that inequalities are necessarily a political matter, for we have the opportunity to structure the distribution of opportunities according to our preferences.

In education, as in other cultural arenas, political issues are often “disguised as cultural ones”, as Gramsci (1971, p. 149) described it. This can easily give the impression that the cultural is divorced from the political. In fact, the cultural dimension of the school system is directly political. As much as economic questions—especially distributional ones—are political disputes (despite the vociferous denial of most neoclassic economists), cultural questions are a dimension of political struggles. And as the most prevalent cultural institution in occidental societies, the school system is thus the cultural-political matter *par excellence*. As much as we would collectively gain from re-insufflating the political dimension into the cultural question, or “extract[ing] the political meanings from their cultural integuments” (Harvey, 2005, p. 40) in general, we would greatly benefit from recognising the ‘political’ in the ‘educational’: “education can never be politically neutral [and] every educational policy is a political policy” (Hollis, 1971, p. 153). In the same logic, “the [educational] market is a political creation, designed for political purposes” (Ranson, 1993, p. 338). And the question of the opportunity structure and its resulting inequalities is no exception, for both are fundamentally *distributional issues*.

Neutrality is often considered as the most apolitical stance. This is a grave fallacy, for, in a situation of injustice, “choosing to remain neutral when you have the power to intervene is to become an accessory to the unfolding injustice. [...] Neutrality is apolitical only if the scene unfolding in front of your eyes is also apolitical” (Varoufakis, 2002, p. 249). In fact, “the *status quo* is always political” (Hollis, 1971, p. 165). Choosing to remain neutral when the educational order largely reproduces the unequal distribution of educational and occupational based on one’s social origin is an undeniable form of complicity with the perpetuation of an injustice. And as the unequal distribution of life chances based on individuals’ social origin is a clear anti-democratic state of things, those attached to democratic values can be expected to denounce and refuse its maintenance. From the moment they are aware of the contribution of the DP to the reproduction of social inequality in Australian education, the IB organisation and

the Australian education authorities face a situation of injustice unfolding before them. If they choose to adopt a ‘neutral’ posture, they are indirectly complicit with the production of this injustice. As a rule, “to permit an existing use to continue is always to exclude what could be done instead” (Hollis, 1971, p. 165). Letting the DP be used as an instrument for the reproduction of social privilege on economic and cultural grounds is a political decision that is incompatible with any sensible belief in the moral importance of equality of opportunity.

The relation between various social groups in the educational race is inherently political, as it determines the life chances of students. Accordingly, the more general rules regulating the distribution of educational chances to various social groups are also political. The issue thus goes far beyond the localised case of a curricular alternative such as the DP. I do not intend to provide a detailed set of propositions for making the Australian education system more equitable at this point¹⁰⁹. However, there are clear priorities to be addressed in the Australian context. In particular, since Australia is considered as poorly equitable in the allocation of resources between schools (OECD, 2013c, p. 44), returning to a *universal* needs-based model of funding should be a political priority (Connors & McMorrow, 2015, p. 68).

VII. Educational utopia

Compensatory education measures, such as the above, face other difficulties. They have been criticised for being superficial solutions leaving structural issues unaddressed (Connell, 1993, p. 19), especially when they attempt to provide more of the ‘existing’ education to students for whom this model is hardly relevant. In my opinion, this criticism is correct. Yet, I do not consider that it automatically makes compensatory education proposals invalid. My conception of compensatory education is to implement such policies as *a means to a more structural end*. Adequately-designed affirmative action policies can provide a temporary and contextual improvement that can, in turn,

¹⁰⁹ This ambitious project would deserve far more space than this work permits. For the reader interested in more profound educational reforms towards a fairer distribution of educational chances, Australian and international sources of inspiration can be found in Teese and Polesel (2003), Teese and Lamb (2007), Connell (2012), Sahlberg (2015), and even the OECD (2013b). Importantly, such reforms would need to cover the entire school system, ranging from preschool to higher education.

lead to more structural reforms. For that reason, I conceive the DP Equity Program as a transitional instrument towards a more socially equitable distribution of educational chances in the Australian senior secondary school system.

It would be appropriate to consider my proposal as suggesting an increase in the competition for credentials. As Marie Duru-Bellat (2014, p. 35) argues, compensatory education measures can make a genuine educational competition possible. Paradoxically, compensatory education measures can be seen as an instrument for making the educational market more competitive than its comparable competitiveness under a neoliberal regime. In my opinion, this conception of education as a competition for scarce credentials has many deep flaws, and conserving the three main features of the opportunity-defining use of education systems (see chapter one) can only lead to perpetual issues in the social use of the school system. Meanwhile, I have dedicated most of this chapter to reforms likely to increase the competitiveness of the education system. Is this apparent tension a real contradiction?

Surely, increasing competition will not solve the more fundamental problem of conceiving of education as a race for scarce credentials. But the reasoning behind my decision to propose some competition-based reforms is given in the title of the chapter. It is the pragmatic approach to politically conceivable change that has led me to propose compensatory policies for making the DP a more equitable curricular alternative in Australia. These policy recommendations allude to concrete reforms that could be implemented without changing the core of the education system. For those who want life chances to be distributed more fairly but also wish to maintain the education system as a structure of distribution of scarce and profitable credentials—that is, positional goods whose value depends on their scarcity (Hirsch, 2005 [1976], p. 27)—the very least that should be done would be to ensure that the role of the education system in the *production* of social inequality is not captured by the interests and reproduction strategies of dominant social groups. In other words, for those who care about equality of opportunity but are satisfied with a school system in charge of producing durable social inequality, it is important to guarantee that it does not remain an instrument of *reproduction* of social inequality. In an inequality-productive but non-reproductive education system, all students would be entitled to a genuine *freedom* from the determinisms that create social inequality out of inherited properties.

So far, my proposals have not challenged the core structures of the education system that determine the distribution of life chances. As long as the education system remains a distributive structure of positional goods, students will be engaged in the competitive model of education, where becoming educated is synonymous with a race to acquire credentials. This has nothing to do with neoliberal reforms: the three structural features determining the role of the education system in the (re)production of social inequality were in place before the advent of neoliberalism and will most likely persist after its demise. In this chapter, I have detailed the pragmatic side of educational change in the case of the DP in Australia, and pointed at possible broader reforms of the school system that would still conserve the credentialing function at its core. But the reader would have realised that the title of this chapter suggests a two-sided conception of educational change. After describing its realpolitik, I will now briefly outline a more radical utopia of educational change.

I doubt that (1) conceiving of education as a factory of human capital, and (2) designing educational structures around the principle of credential scarcity—and the competitive distribution of these scarce credentials—are the best ways of making the most out of the developmental possibilities offered by the collective organisation of education. As long as education systems remain primarily systems of credential distribution, they cannot but score poorly at being democratically empowering institutions, for their most essential social utility is the production of occupational inequalities, i.e. the production of symbolic violence in the form of a distribution of scarce and valuable titles of credence to a limited number of selected social agents. The social primacy of educational competition will not be confronted until the credential system is dismantled or, at least, made less dominant than the other social functions of the education system.

The proposal of making educational credentials less important for occupational and life chances has received theoretical credit at different points in time (Dubet & Duru-Bellat, 2007, p. 284; Fishkin, 2014, p. 210; Halliday, 2016, p. 164; Hirsch, 2005 [1976], p. 184). For the distribution of educational opportunities, Simon Marginson (1997a, p. 53) also contends that “only the abolition of positional competition in education could have secured equality of outcomes by social group”. In a more radical fashion, some theorists have called for challenging the relation between occupations and university credentials altogether. De-credentialing numerous occupations would

certainly contribute to making the world “a little less full of arbitrary and unnecessary barriers” (Fishkin, 2014, p. 253), provided that this mechanism of allocation of individuals into the occupational structure were not replaced by an even more arbitrary mode of regulation of the ineluctable violence engendered by the allocation of social agents to different positions in capitalist systems of production. Randall Collins (1979, p. 198) even suggests making academic titles *forbidden* as selection criteria for jobs: in his words, we should be “making formal credential requirements for employment illegal”.

When he presented his argument, more than 35 years ago, Collins (1979, p. 197) feared that, if we did not choose to abolish the occupational function of educational credentials, the process of credential overproduction and devaluation would continue to the point where, one day, we would reach a situation where “4 years of college [would be] needed for a manual laborer”. In the 2010s, the fact that his prediction has become reality for some students graduating with depreciated university degrees should at least question our common-sense understanding of the social use of academic credentials.

Randall Collins’ argument has clear theoretical depth. Unfortunately, his solution also has an evident downfall. Even if the dominant classes did not find alternative hidden or overt mechanisms for ensuring their occupational advantage and its reproduction (and they probably would), his proposal would still lead to another social conundrum. Academic credentials function as positional goods in order to *regulate the competition between social agents on capitalist employment market*. If we disassembled the credential system, a direct increase in the competition for jobs would ensue. Abolishing the credential system may solve the occupationally restrictive use of the education system, but it would not solve the question of the distribution of roles in capitalist systems of production. The fundamental organisation of production in a capitalist society is based on an occupational world structured by employment relations. Precisely because the organisation of production rests on employment relations, there is an inevitable anti-egalitarian principle at the core of capitalist societies, and abolishing the occupational function of credentials would do nothing for progressing towards democratic modes of production. The full benefits of a ‘decredentialisation’ of the education system in terms of democratic distribution of life chances would only be reaped if this measure was supplemented by a complete transformation of what we currently define as the job market.

Transforming the collective organisation of production would be no less—but also no more—a political act than leaving it as it currently is. Despite our supposed incapacity to collectively imagine substitutes to the model we currently use for the organisation of productive labour, there are identifiable alternatives that can challenge the exploitative dimension of our production system. These alternatives have the potential for being far more emancipatory than a capitalist system of production, but also far more emancipatory than any example of socialist or communist production that has existed so far. Revolutionising the social organisation of production would extend social agents' freedom beyond their supposed 'job market' and consumption freedoms.

Over the years, numerous thinkers have worked on elaborating more respectful and viable systems of production, where being productive (i.e. creating economic value through work) and being employed are not considered as one and the same thing; where providing decent means of subsistence for all does not rely on wages obtained through employment contracts (or unemployment benefits); where being entitled to a permanent, indefectible, and unconditional wage throughout one's life is a universal *political right*; and where the hierarchy of economic rewards for productive activities draws—somewhat paradoxically—far more on the mechanisms of supply and demand than in capitalist labour markets, while simultaneously creating the social conditions of possibility for the advancement of individual freedom¹¹⁰. But as much as the organisation of education systems and the organisation of production cannot be understood separately from one another, such a profound change in the organisation of production cannot ignore the political conditions needed for accomplishing it. And if this major makeover amounts to a revolution in our productive, economic, and legal systems, its advent depends on a transformation of our practice of democracy that would be no less revolutionary.

¹¹⁰ For the inclusion of economic entitlements into political citizenship rights, the works of Philippe Van Parijs (1997) and Stuart White (2003) are interesting. For a theoretically solid and clearly detailed presentation of democratic reforms of systems of production, I can only recommend Bernard Friot's work. He offers some of the most critical and thought-provoking propositions to date (Friot, 2012, 2012 [1998], 2014).

VIII. Some limitations and possibilities for further research

Throughout the thesis, I have endeavoured to engage in a critical presentation of the theoretical and empirical instruments I deployed for analysing the contribution of the DP to the education-based reproduction of social inequality in Australia. In order to remain faithful to the dynamic logic of research, as opposed to the more static logic of exposition embodied in the final report, I have provided the reader with a reflective account of the construction of the research instruments, on one hand, and of their shortfalls, on the other hand, *in a single movement*. Accordingly, some of the theoretical, methodological, empirical, and practical limitations of the research are disseminated throughout the thesis, from the very first chapter (where I critically discuss the relevance of the concept of ‘reproduction’ in my model of the educational opportunity structure) to the final chapter (where the imperfections of several of the practical recommendations I propose are acknowledged as they are presented).

I do not intend to repeat some of the difficulties raised earlier about the conceptual and empirical tools I used in this research, and I do not wish to reassert the specific conditions of validity of the theoretical and empirical arguments I proposed in the report. However, I would like to discuss a number of limitations built into this project in order to propose a generative agenda for further research. I will proceed in reverse order and first address some of the limitations inherent in the pragmatic recommendations I have offered in this chapter for counteracting the DP contribution to the reproduction of social inequality in Australia. I will then discuss some of the methodological limitations evident in the project. Finally, I will return to the most fundamental limitations by addressing some theoretical issues raised throughout the research. As I will discuss the methodological and theoretical insufficiencies of my research, I will also put forward some succinct proposals for engaging in future research to build upon and improve the analyses developed in the thesis.

1. The legitimacy of pragmatic DP recommendations

Faced with reasonable evidence that (1) the DP tends to contribute to the reproduction of social inequality in Australia, and that (2) this situation contradicts the moral

conception of the adequate distribution of educational opportunities held by the IB organisation and the Australian educational authorities, I decided to outline a number of practical recommendations capable of altering this state of affairs. However, I must immediately add that this discussion of various policy reform proposals is not to be seen as an integral part of the sociological enterprise. To that extent, the inclusion of this chapter in the thesis is not determined by its expected sociological significance. It is rather the practical relevance of the overall research that is fostered by this final chapter.

Most of the proposals put forward in this chapter result from a commitment to two core principles. The first one is to develop a set of practical recommendations that could be adopted more easily than major structural reforms. The second one is to go beyond the objective of limiting the contribution of the DP to the reproduction of social inequality, by using the unique position of the DP in the Australian education system to challenge, to some extent, the *overall* education-based reproduction of social inequality in Australia. Since this dual commitment underpins the different types of reforms proposed in this chapter, I wish to provide a critical commentary of the assumptions it relies on.

First, the decision to propose pragmatic recommendations for the DP rather than deeper ones could be questioned on practical and theoretical grounds. For instance, given the current extent to which the DP contributes to the reproduction of social inequality in Australia, one could claim that (1) the proposals developed in this chapter are not as realistic as they may seem, but also that (2) even if these reforms were successfully implemented, it is unsure if they would succeed. Both of these comments are pertinent, and it cannot be assumed *a priori* that the policy reforms would be practicable and/or successful. More generally, I do not claim these policy proposals to be the best ones that could be designed, and they probably deserve simply to be considered as inputs in a policy conversation for limiting the DP contribution to the reproduction of social inequality. At a more theoretical level, the commitment to pragmatic rather than systematic reform proposals could be challenged by arguing that the former is not the most effective way of thoroughly transforming the education-based reproduction of social inequality. If this response is not uninteresting, given the context of the present study, I defend the adequacy of pragmatic reform proposals because of

their theoretically superior chances of being implemented. Of course, this stance does not forbid a discussion of other policy possibilities.

Second, and as noted in chapter three, the present study does not take a position with regard to the legitimacy of (1) having alternative curricula such as the DP in the Australian education system, and (2) regimes of curricular alternatives more generally. These two normative questions are rarely conceptualised as such in considerations of curriculum alternatives, yet they probably represent the most fundamental issues to be discussed in order to understand the relationship between alternative curricula and the social distribution of educational opportunities. Is the presence of the DP in the Australian education system desirable and justified? Can the DP be made to align with the moral foundations of the social distribution of educational opportunities seen as important in the Australian context? What kind of relationships should exist between the various curricula available in regimes of curricular alternatives?

As essential as they are, I argue that these questions are not to be answered by the sociologist. If the sociologist can participate in debates on social policies, as I have done in this chapter, this can be done only within the context of predetermined aims for such policies. In other words, it is not the sociologist's place to act as a legislator and dictate the *right* principles according to which the education system—or any other social sphere—must be organised. The configuration and structuring of education systems—including the existence of regimes of curricular alternatives—is a *political question* that must be answered *politically*, that is, by the relevant political community. In this context, the idea that sociologists—supposedly expert in social policy—could do away with the political process must be rejected.

2. Some methodological limitations and propositions

Every methodological decision taken during the research—in terms of research strategy, data collection instruments, analytical approaches, or even writing and dissemination methods—both enables and limits the possibilities afforded to the researcher. To that extent, the entire system of methodological choices made as part of the project results in a parallel system of perspectives embodied, in the case of a doctoral project, in the thesis. Although the coherence of the thesis partly reveals the coherence of the different methodological decisions made by the researcher, each of

these practical operations—especially those most consequential for the results of the study—deserves critical attention. Accordingly, rather than providing a descriptive account of the strengths and weaknesses of the countless methodological moves I made throughout the project, I would like to discuss two specific examples of limitations for some of the most essential instruments used in this research.

If the choice of specific categories of research methods—such as survey and documentary research rather than observation and interviews, for instance—tends to circumscribe the forms of knowledge that can be constructed about the object, the limitations resulting from the methodological decisions made to progress from concepts to variables calls for a high degree of epistemological vigilance from the researcher. In the present project, it is perhaps most obvious in the case of the relationship between the concepts of economic capital and cultural capital, on one hand, and the variables I have used to operationalise them. The indicators selected for accounting for the capital endowments of DP students are clearly imperfect (for different reasons depending on the species of capital considered).

The variable used to measure the economic capital of DP students' parents falls short of the theoretical coherence of the concept in at least three ways. First, and as discussed in chapter three, it reduces economic capital to pre-tax labour income, while it is evident that economic resources are irreducible to pecuniary resources. In fact, income represents a *flow* of resources while the concept of economic capital refers to a form of *possession*. Second, it uses occupational situations as a proxy of labour income, while it is fair to say that occupational situations identical at the descriptive level are often incomparable in practice. Third, the very coding of economic capital could be criticised: the use of five income brackets and the exact location of the boundary between two adjacent brackets is an arbitrary decision that has clear implications for the results obtained. Finally, the investment of parental economic capital into educational strategies could be problematised, by analysing the intergenerational allocation of economic resources. Generally speaking, research interested in the reproduction of social inequality would gain from examining *empirically* the forms and logics of economic inheritance with regard to reproduction strategies (including educational strategies).

The methodological difficulties arising from the use of the concept of cultural capital are even more evident. At its most general level, the definition of cultural capital

I have used in this work acknowledges three forms of cultural capital: (1) cultural dispositions (as embodied cultural capital), (2) cultural titles (i.e. academic credentials as institutionalised cultural capital), and (3) cultural goods (as objectified cultural capital) (Bourdieu, 1979, p. 3). I then contextualised this definition to focus on what I have labelled as educationally-relevant cultural capital. However, given the multiple forms that cultural capital can take—even if one focuses on educationally-relevant cultural capital only—it has proven difficult to provide a comprehensive operationalisation of this concept. I have paid attention to institutional cultural capital in chapters four and six and I have discussed embodied cultural capital in chapter seven, but I have not examined the relationship between the inheritance of—or simply access to—cultural goods and the DP in Australia. Moreover, the operationalisation of institutionalised cultural capital into a ‘level of education’ variable is in itself problematic, as mentioned in chapter three. More generally, future research on the education-based (re)production of social inequality could use a more comprehensive range of variables to account for the cultural capital inheritance of students and its relationship with the distribution of educational opportunities.

A number of other examples of the limitations resulting from the partially constrained methodological decisions made throughout this project could be provided, addressing issues such as the sampling of DP schools and students, the construction of the questionnaire and its questions, or the analysis of results and the inclusion or exclusion of results from the report. However, I am confident that the two examples provided above suffice for illustrating the general point made at the start of this section: all methodological stances taken during the project simultaneously reveal certain aspects of the object and hide others.

Beyond illustrating the methodological ‘perspectivism’ embodied in research instruments, I would like to conclude this reflective discussion by presenting three major insights I have gained by conducting this project and which would be useful for researchers conducting similar projects in the future. These reflections all concern the design of the questionnaire. First, I would replace the two questions about students’ social capital, the responses to which proved uninformative, by more carefully constructed questions about the network of ‘usable’ relationships that these students’ parents have. Second, I would include more questions about the comparative quality of the experience inside and outside of alternative curricula in order to grasp more

thoroughly the relative quality of the corresponding educational opportunities. Third, I would include questions about all three dimensions of cultural capital in the questionnaire, while remaining focused on the importance of institutionalised cultural capital in the context of educationally-relevant cultural capital.

3. Theoretical orientation and future research

Since I have, from the start, emphasised the importance of the *theoretical* contribution of this research as opposed to its exclusively empirical insights, it is important to return to the theoretical logic of the entire project and reflect upon it at the end of the thesis. This reflection makes it possible to draw on what the research has achieved in order to identify the kinds of inquiry which could be conducted in the future. At the outset, it is probably useful to remind the reader that the research reported in this thesis has two core features: (1) it focuses on the education-based reproduction of social inequality in the context of (2) a regime of curricular alternatives. To that extent, it is evident that further research could—and deserves to—to be conducted in both areas. Nevertheless, given that regimes of curricular alternatives are still largely under researched, my suggestions for possible research agendas will focus on the latter.

The prime objective of the research presented in this text was to gain an overview of the DP contribution to the education-based reproduction of social inequality in Australia. After identifying that no comprehensive account of the relationships between the DP and the social distribution of educational opportunities in Australia existed, my intention was to provide such a *foundational* study. I particularly noted that the theoretical implications of the complex relationship between the school and student levels of analysis were rarely taken into consideration in research on the DP. Yet even more significant was the virtual absence of system-level studies, that is, of studies that took the reality of an alternative curriculum (such as the DP) at the level of a society (such as Australia) seriously. As much as Durkheim (2005 [1897]) revealed that suicide can be analysed as a social fact irreducible to its individual manifestations, the theoretical orientation of this project serves as a reminder that the contribution of the DP to the reproduction of social inequality can be a social fact irreducible to the reality of the DP in individual schools or for individual students.

As the term ‘foundational’ in the previous paragraph suggests, the value of this research is conditional on it being used as a basis for future research. In conclusion of this chapter, I will thus present four useful avenues for taking research on the relationship between alternative curricula and the social distribution of educational opportunities further than it has been here. First, one of the most evident limitations of this thesis directly derives from its emphasis on a systemic analysis: since it was important to grasp the social reality of the DP contribution to the reproduction of social inequality at the level of Australia as a country, the thesis has not paid full attention to the school level of analysis. If a subsequent project retained the relational epistemological commitment, research that would involve DP *and* non-DP students in DP schools would be particularly welcome. This could advance our understanding of the relationship between curricular alternatives and the distribution of educational opportunities *within schools*.

Second, in order to gain a better understanding of regimes of curricular alternatives, the comparative properties and status of different curricula deserve much more attention than they have received. In this research, I used documents and previously conducted research to outline the comparative cultural and cognitive demands of the DP and state curricula. I also provided analytical instruments for analysing the comparative exchange value of the DP and non-DP credentials. Future research would gain from using qualitative research methods—especially classroom observation and interviews with students and teachers—for making sense of the comparative demands placed on students in different curricula. In the same vein, qualitative methods could be used to understand the logic of *curriculum choice* for students in schools offering more than one curriculum. For instance, investigating the different *subjects* available in schools offering curriculum alternatives, by paying attention to the social and academic profiles of these subjects, could deliver invaluable results.

Third, given the comparative opportunity afforded by the international presence of the DP, international comparisons *between* different school systems would be warranted. As I have argued in chapter eight, the reality of the DP is highly dependent on the overall structures of the education system in which it is implemented and, in particular, on the social distribution of educational opportunities in this system. To that extent, comparing the DP contribution to the reproduction of social inequality in

Australia and in the United States, Singapore, Canada, or the United Kingdom would reveal (1) the different types of regimes of curricular alternatives that can exist around the DP, and (2) the different positions that alternative curricula can occupy in the educational opportunity structure.

Fourth, although the Diploma Programme is the most prominent curriculum inserted in regimes of curricular alternatives around the world, the provision of alternative curricula is not limited to the DP. Even though the other IB curricula (Primary Years Programme (PYP) and Middle Years Programme (MYP)) are implemented as stand-alone curricula in schools offering them, they represent another type of alternative education (without the 'within-school alternative' dimension). Analysing the relationships between these alternatives and the social distribution of educational chances would represent a fruitful research agenda. But the field of alternative curricula also goes beyond IB programs. Schools offering Montessori or Steiner programs, or schools offering 'international' curricula (such as the English National Curriculum outside of the United Kingdom, the International Primary Curriculum, or the International General Certificate of Secondary Education) all deserve to be researched more systematically in order to understand alternative forms of education from a sociological point of view.

Conclusion

The balance of values that exists to-day still does not satisfy our present ideas of justice, and the more we advance the more we shall try to get near to the correct ratio. No one can set any limits to this development. Now the supreme obstacle it comes up against is the institution of inheritance. It is obvious that inheritance, by creating inequalities amongst men from birth, that are unrelated to merit or services, invalidates the whole contractual system at its very roots. [...] Now inheritance as an institution results in men being born either rich or poor; that is to say, there are two main classes in society, linked by all sorts of intermediate classes. [...] Therefore as long as such sharp class differences exist in society, fairly effective palliatives may lessen the injustice of contracts; but in principle, the system operates in conditions which do not allow of justice. (Durkheim, 2003, p. 213)

So long as the DP (1) remains used primarily by privileged social groups, and (2) provides its students with superior opportunities in Australia, it will continue to participate in the reproduction of social inequality. The introduction of the DP into the Australian education system has turned this new form of educational differentiation into a stake in the struggle between social groups for the distribution of life chances. Regimes of curricular alternatives offer new possibilities for the elaboration of *educational strategies*, which are one form of expression of the conatus towards the intergenerational reproduction of advantage. In the Australian context, the DP has thus been used as an instrument for gaining an edge in the sharp educational competition at the senior secondary level.

The empirical instrumentalisation of the DP as part of educational strategies leaves little room for the advancement of equality of educational opportunity in the realm of curricular alternatives. Accordingly, in the final chapter, I outlined a number of

changes that could be made to modify the instrumental use of the DP, by transforming its mode of supply and consumption in Australia. Of course, most of these reform proposals are more palliative than revolutionary, for they do not contradict the ‘contractual inequality’ that students from different social backgrounds face, because of their inheritance, in the education system. In other words, these reforms would not challenge the overall education-based reproduction of social inequality in a systematic fashion. Beyond the limitations of my recommendations, however, it is essential to remember that these reform proposals are (1) designed as transitory reforms, and (2) not the most essential contribution made in this work. As I have explained in the introduction, the legitimacy of this thesis resides more in its *theoretical contribution* to sociological research and knowledge than in its practical propositions.

From a theoretical point of view, the problem of the relationship between social inheritance and the social distribution of life chances is nowhere as acutely revealed as in the question of the relative distribution of opportunities in the education system. This is the case because the conatus towards the intergenerational reproduction or betterment of social position takes the form of *reproduction strategies*, amongst which *educational strategies* occupy a central position. However, this conatus expressed as educational strategies runs deeply against the moral principle of equality of opportunity. While strategies of reproduction aim at securing the intergenerational perpetuation of one’s privileges, almost all “versions of the principle of fair life chances [...] would, at a minimum, endorse the idea that one’s chances in life should not depend on the circumstances of one’s birth” (Fishkin, 2014, pp. 26-27). The concrete manifestation of this potential antinomy between two driving forces of social life is mediated by the configuration of social structures, including the structuring of the education system. However, the expression or resolution of this conflict of desires and principles is, in the last analysis, determined by political processes. And the decision regarding the appropriate way of addressing the tension between the quasi-universal conatus of intergenerational maintenance or improvement of social position of social agents, on one hand, and the principle of fair life chances, on the other, is a fundamental dimension of political struggle.

The social distribution of educational opportunities is bound to remain an ever-renewed locus of social struggle—and thus a privileged object of sociological analysis—so long as the collective organisation of young people’s education into a

national system of education continues to represent “above all the means by which society perpetually recreates the conditions of its very existence” (Durkheim, 1956 [1922], p. 123). The tension between inheritance and the distribution of power and opportunities is not restricted to the education system, but the latter’s particular function with regard to the organisation of economic production explains why (1) the relation between the education system and the employment system, (2) the scarcity and regime of allocation of academic titles, and (3) the social distribution of educational opportunities, are so politically significant. These are the three dimensions of the reproduction of social inequality I outlined in chapter one, and they all are a crucial stake in the struggle for the distribution of chances and resources between social groups.

Refining Durkheim’s (2003, p. 213) claim that the “supreme obstacle” to social justice is inheritance, I contend that the most deep-rooted obstacle to social justice is the structuring of society in a way that makes inheritance highly powerful for shaping the comparative (i.e. positional) bundle of opportunities afforded to social agents. This statement implies that the education system is not only responsible for enabling the intergenerational perpetuation of the cultural existence of society. In its functioning as a monopolistic supplier and distributor of credentials, the school system also determines the social distribution of occupational chances and their related assets, resources, powers, and broader opportunities. The relationship existing between the social determinants of educational success, on one hand, and the social role that the school system plays in the social distribution of life chances, on the other, explains why I have insisted on studying education in light of the *structures and mechanisms of social reproduction*. The education system is a central component of the inheritance system of societies.

Because families’ use of the education system is significantly determined by their conatus towards the intergenerational reproduction of their social privileges, the participation in the race for credentials of social groups who were previously absent from it has the effect of forcing “the groups whose reproduction was mainly or exclusively achieved through education to step up their investments so as to maintain the relative scarcity of their qualifications and, consequently, their position in the class structure” (Bourdieu, 2010 [1979], p. 127). The quality of the DP opportunity and its social topography in Australia can be interpreted as the result of privileged social

groups stepping up their educational investments. But these heightened investments are not only an individual matter, for they rest on the collective accumulation of educationally-relevant resources into schools, ‘ability’ streams, and classrooms. Accordingly, if inherited properties are at the root of the social distribution of educational opportunities, their effectiveness can be sustained only if the education system is configured so as to structurally reinforce the initial power of inheritance. In that context, and even if the school system always retains some of its partial autonomy, neoliberal educational reforms represent the outcome of political struggles dominated by the dominants for shaping the education system according to their interest.

There is a final remark that I need to make regarding the relation between the social distribution of educational opportunities (including academic results) and the justification of the social order. The purpose of the following discussion is to anticipate and defuse some of the most common objections that are being raised to the primary arguments put forward and moral principles elaborated in this thesis. Gary Marks’s recent book, soberly entitled *Education, Social Background and Cognitive Ability: The Decline of the Social* (2014), is only the latest example of a flow of politico-academic texts aiming at *naturalising the status quo* by denying that the social distribution of educational opportunities is *socially and politically determined*. Equipped with a fundamentally flawed understanding of the development of dispositions and competencies, Marks and like-minded researchers fail to understand that one cannot quantify the extent to which the ‘performance’ or ‘ability’ of a social agent is ‘socially determined’, for the simple reason that social determination is *not* opposed to biological determination. The antinomy of nature and nurture is probably the most pervasive and pernicious false dichotomy that persists in common-sense thinking about the distribution of educational chances, and it is not absent from the categories of thought of some social scientists either. This misconception must be rejected for progressing towards a properly scientific understanding of the social distribution of educational opportunities. Simply put, trying to identify the extent to which the complex behaviour of an individual, such as an educational or cognitive performance, is explained by ‘nature’ versus ‘nurture’, is bound to fail for *epistemological* reasons. As Fishkin neatly summarises it:

It is a fundamental mistake to expect genetic science, or any science, to determine that certain traits belong in a ‘genetics’ box, others in an

‘environment’ box, and perhaps still others in a ‘chance’ or ‘choice’ box. [...] The mistake here is not an empirical one. It is a philosophical one. [...] Because genes and environment do not have separable, independent effects, it does not make sense to say that a given trait or behavior is, say, 70 percent genetic and 30 percent environmental in origin. All traits and behaviors are 100 percent genetic and 100 percent environmental in origin. (Fishkin, 2014, p. 87; 95)

All human abilities, including cognitive abilities, are forms of *developing* expertise (Sternberg, 1998, p. 11), and looking for the separate effects of nature and nurture on competencies—which can only be evaluated in *practice*—is a misconceived project. Accordingly, the sociologist is entirely legitimate in asserting that “intelligence is distributed by society and inequalities in intelligence are social inequalities” (Bourdieu, 1998a, p. 42). As a result, “it does not make sense to conceptualize equal opportunity as the conditions under which people can rise as far as their efforts or their natural talents permit”, simply because “there is no such thing as ‘natural’ talent or effort, unmediated by the opportunities the world has afforded us, which include our circumstances of birth” (Fishkin, 2014, p. 83).

Precisely because intelligence or academic competence are forms of *developing* expertise, the school system “covers its own tracks through a theoretical illusion”, as Teese (2007a, p. 59) has it. Indeed, “individual differences in achievement at one point in time [progressively] become the best predictor of achievement at a later point in time. This gives rise to the appearance that the influence of social origin is very limited” compared to the influence of other factors, such as the student’s level of academic competence (Teese, 2007a, p. 59). But this view completely ignores the *developmental* nature of academic competence, and thus the social conditions of possibility of the development of academic competence.

The partisans of the “decline of the social” (Marks, 2014) thesis—and of the possibility of meaningfully separating ‘cognitive ability’ from social background—believe in a theoretical illusion that ignores more than the social and educational conditions under which students’ academic competence is produced. They also fail to grasp the biographical *genesis* of academic success. Their dogmatic assumptions about human nature and its supposed role in the creation of differences of educational

performance by social origin is often reinforced by an unquestioned faith in the self-explanatory power of elaborate statistical modelling, in which analysing the singular effect of different factors is synonymous with measuring their effect after ‘controlling for the effect’ of other factors. The unsophisticated use of these compartmentalised measures of ‘social factors’ largely rests on a weak understanding of the *complexity of causation* in the social sciences. It is clear that many of the so-called ‘independent variables’ in these statistical models are everything but independent from one another in the social world (Bourdieu, 1984 [1979], pp. 103-104).

While measuring the effect of students’ social background on their academic achievement net of their previous academic results is, sociologically speaking, mostly uninformative, it often serves as an authoritative device for asserting the legitimacy of the inequality of academic outcomes between students from different social backgrounds. Students’ unequal academic results are seen as the just outcome of unequal *natural abilities* between students from different ethnic, religious, economic, or cultural origins. In turn, the socially discriminative outcomes of the education system function as an instrument of legitimation of the social order. For most social agents, including a number of education professionals, “the educational diploma is not merely a mark of academic distinction; it is also a warrant of natural intelligence, of giftedness” (Bourdieu, 2003, p. 33). The unequal distribution of academic titles to students from different social origins offers a great justification for social inequalities, especially when the determining role of students’ social origin in their academic success or failure is ruled out by statistical analyses that artificially divorce educational achievement from inherited cultural capital. This amounts to no less than “a *racism of intelligence*: today’s poor are poor because they are dumb, intellectually incapable, idiotic” (Bourdieu, 2003, p. 33). Against these defective accounts of the social embeddedness of education systems, the social scientist needs to be engaged in a relentless effort to unravel the complexity of the social determinants of dispositions and practices, in the educational field and beyond.

At first glance, the International Baccalaureate Diploma Programme in Australia may be seen as an insignificant object of research. On second thought, however, if the complexity of educational reality is taken seriously, it can prove to be a fertile case for thinking about more fundamental sociological questions. Within the limits of what was achievable, I hope this thesis will have demonstrated that, as idiosyncratic as one’s

research object is, a careful theoretical construction of the project can offer an original and appreciable contribution to sociological knowledge. In fact, it would not be an overstatement to claim that the ways of thinking about sociological questions I have employed in this text matter more than the tentative results of the research. And if the reader finds any interest in the central questions that underpin this entire work, it would have been a worthwhile knowledge endeavour.

Appendices

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Appendix 1: University of Adelaide ethics approval



RESEARCH BRANCH
OFFICE OF RESEARCH ETHICS, COMPLIANCE
AND INTEGRITY

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CRICOS Provider Number 00123M

7 August 2015

Dr M Secombe
School of Education

Dear Dr Secombe

ETHICS APPROVAL No: H-2014-194

PROJECT TITLE: **The International Baccalaureate and educational advantage and disadvantage in Australia**

The ethics application for the above project has been reviewed by the Low Risk Human Research Ethics Review Group (Faculty of Arts and Faculty of the Professions) and is deemed to meet the requirements of the *National Statement on Ethical Conduct in Human Research (2007)* involving no more than low risk for research participants. You are authorised to commence your research on **08 Sep 2014**.

Ethics approval is granted for three years and is subject to satisfactory annual reporting. The form titled *Annual Report on Project Status* is to be used when reporting annual progress and project completion and can be downloaded at <http://www.adelaide.edu.au/ethics/human/guidelines/reporting>. Prior to expiry, ethics approval may be extended for a further period.

Participants in the study are to be given a copy of the Information Sheet and the signed Consent Form to retain. It is also a condition of approval that you **immediately report** anything which might warrant review of ethical approval including:

- serious or unexpected adverse effects on participants,
- previously unforeseen events which might affect continued ethical acceptability of the project,
- proposed changes to the protocol; and
- the project is discontinued before the expected date of completion.

Please refer to the following ethics approval document for any additional conditions that may apply to this project.

Yours sincerely

PROFESSOR RACHEL A. ANKENY
Co-Convenor
Low Risk Human Research Ethics Review Group
(Faculty of Arts and Faculty of the Professions)

PROFESSOR PAUL BABIE
Co-Convenor
Low Risk Human Research Ethics Review Group
(Faculty of Arts and Faculty of the Professions)

Appendix 2: School information sheet



PARTICIPATING SCHOOL INFORMATION SHEET

PROJECT TITLE: The International Baccalaureate and educational advantage and disadvantage in Australia

ETHICS APPROVAL No: H-2014-194

PRINCIPAL INVESTIGATOR: Dr Margaret Secombe

STUDENT RESEARCHER: Quentin Maire

STUDENT'S DEGREE: Doctor of Philosophy (PhD)

Dear School Principal and Diploma Programme Coordinator,
Your school is invited to participate in the research project described below.

What is the project about?

The project aims at studying the perceptions International Baccalaureate (IB) students have of educational advantage and disadvantage in Australian schools. To do so, the research team wishes to collect information from many IB Diploma Programme (DP) students in Australia. We are specifically interested in Year 12 candidates at the November 2015 examination session. Your school has been selected with several other schools in Australia to participate in the study. By conducting the project, the researchers expect to understand better the relation between the International Baccalaureate education and educational advantage and disadvantage in Australia.

Who is undertaking the project?

This project is being conducted by Quentin Maire, PhD researcher at the University of Adelaide. This research will form the basis for the degree of Doctor of Philosophy at the University of Adelaide under the supervision of Dr Margaret Secombe, Dr Grant Rodwell, and Dr Vegneskumar Maniam.

Why am I being invited to participate?

You are invited to participate because your school offers the Diploma Programme for the November 2015 examination session.

What will I be asked to do?

As a school principal, you will be asked to print, complete the consent form and return it to the University of Adelaide (the postal address will be given to you). No further action will be asked from you. As a Diploma Programme coordinator, you will be asked to sign the consent form and supervise the collection of data from the Year 12 Diploma Programme students. All the relevant material will be provided to you, including all the forms, information sheet and questionnaire. A clear and simple set of guidelines for data collection will be provided to you.

How much time will the project take?

As a school principal, the project should take you fifteen minutes (time needed to read the information sheet, sign and put the consent form in the envelope that will be provided to you).

As a Diploma Programme coordinator, the project should take less than three hours (including the time to read and apply the procedures for data collection, distribute the information sheet, consent form and complaints form to the students, collect the signed consent forms, distribute the questionnaire to the students accepting to participate, collecting the completed questionnaires and sending the completed consent forms and questionnaires back to the University of Adelaide).

The questionnaire will be sent to you both in paper and electronic versions, and envelopes will be provided to you for returning the completed documents.

Are there any risks associated with participating in this project?

Given the nature of the project, it does not entail any risk at all. Your school will not be impacted in any way if you choose not to participate.

What are the benefits of the research project?

This project may benefit the International Baccalaureate organization by clarifying the implications of the IB Strategic Goals 2011-2015 in the Australian context. This may lead to some policy recommendations for the IB in Australia. For the students, it might help to improve the teaching material and contents.

Concretely, the research team would like to provide factual data about the Diploma Programme students' opinions in order to assess the way in which the IB relates to educational advantage and disadvantage in Australia. Of course, these benefits are not 'assured' and clear before the study takes place, but the data collected will no doubt offer good statistics for understanding the DP in Australia. Because the study focuses on several schools throughout Australia, we will be pleased to have as many DP students as possible participating in the study. A high response rate would give credit to our results and make the study more valuable.

Can I withdraw from the project?

Participation in this project is completely voluntary. Even after you agree to participate, you can withdraw from the study at any time by contacting us.

What will happen to my information?

The anonymity of your school and your students will be ensured, and no identification will be included in any display of results or publication. Your responses will not be communicated to any school or any other institution.

The information will be confidentially stored, and the access to these data is restricted to the researcher leading the project, as well as the two researchers associated to supervise the project at the University of Adelaide. The data (paper or on a hard drive) will be kept in a locker at the University of Adelaide facilities for five years, and will then be destroyed. The results of the study will lead to academic publications. Our priority, for any publication, is to ensure that no harm is done to any school or student who accepted to participate in the study. The results as displayed in the doctoral thesis will be communicated to the participating schools upon request placed by these schools, and only after completion of the research project (expected in July 2016).

The online version of the survey is being conducted using SurveyMonkey software which is based in the United States of America. Information the respondents provide on this survey will be transferred to SurveyMonkey server in the United States of America. By completing this survey, you agree to this transfer.

Who do I contact if I have questions about the project?

For further inquiries, please contact Dr Margaret Secombe (Adjunct Senior Lecturer at the School of Education, the University of Adelaide) at margaret.secombe@adelaide.edu.au or 8313 3604, or Quentin Maire (PhD researcher at the School of Education, the University of Adelaide) at quentin.maire@adelaide.edu.au. The other researchers associated to this project are Dr Vegneskumar Maniam (vmaniam@une.edu.au) and Dr Grant Rodwell (grant.rodwell@utas.edu.au).

What if I have a complaint or any concerns?

The study has been approved by the Human Research Ethics Committee at the University of Adelaide (approval number H-2014-194). If you have questions or problems associated with the practical aspects of your participation in the project, or wish to raise a concern or complaint about the project, then you should consult the Principal Investigator. Contact the Human Research Ethics Committee's Secretariat on phone (08) 8313 6028 or by email to hrec@adelaide.edu.au. If you wish to speak with an independent person regarding concerns or a complaint, the University's policy on research involving human participants, or your rights as a participant. Any complaint or concern will be treated in confidence and fully investigated. You will be informed of the outcome.

If I want to participate, what do I do?

We would be pleased to have your school participating in our study. If you accept, the only things you are expected to do are (1) print the consent form sent to you as an attachment to the researcher's email, (2) complete the consent form and (3) return the form by mail to the following address:

Mr Quentin Maire
School of Education
Level 8 Nexus 10
The University of Adelaide
10 Pulteney Street
Adelaide SA 5005

Your contribution will be greatly appreciated, and we sincerely value your time. Thank you.

Yours sincerely,

Dr Grant Rodwell, Senior Lecturer

Quentin Maire, PhD researcher

Dr Vegneskumar Maniam, Lecturer

Dr Margaret Secombe, Adjunct Senior Lecturer

Appendix 3: School consent form



Human Research Ethics Committee (HREC)

SCHOOL CONSENT FORM

1. I have read the attached Information Sheet and agree to have students in my school taking part in the following research project:

Title:	The International Baccalaureate and educational advantage and disadvantage in Australia
Ethics Approval Number:	H-2014-194

2. I have had the project, so far as it affects me, fully explained to my satisfaction by the research worker. My consent for the school's participation is given freely.
3. Although I understand the purpose of the research project it has also been explained that involvement may not be of any benefit to my school.
4. I have been informed that, while information gained during the study may be published, the school will not be identified and the students' results will not be divulged.
5. I understand that I am free to withdraw my school from the project at any time.
6. I am aware that I should keep a copy of this Consent Form, when completed, and the attached Information Sheet.

School Principal to complete:

School name: _____ Date: _____

Name: _____ Signature: _____

Diploma Programme Coordinator to complete:

Name: _____ Date: _____ Signature: _____

Appendix 4: Participant information sheet



PARTICIPANT INFORMATION SHEET

PROJECT TITLE: The International Baccalaureate and educational advantage and disadvantage in Australia

ETHICS APPROVAL No: H-2014-194

PRINCIPAL INVESTIGATOR: Dr Margaret Secombe

STUDENT RESEARCHER: Quentin Maire

STUDENT'S DEGREE: Doctor of Philosophy (PhD)

Dear Participant,

You are invited to participate in the research project described below.

What is the project about?

The project aims at studying the perceptions International Baccalaureate (IB) students have of educational advantage and disadvantage in Australian schools. To do so, the research team wishes to collect information from many IB Diploma Programme (DP) students in Australia. We are specifically interested in Year 12 candidates at the November 2015 examination session. Your school has been selected with several other schools in Australia to participate in the study. By conducting the project, the researchers expect to understand better the relation between the International Baccalaureate education and educational advantage and disadvantage in Australia.

Who is undertaking the project?

This project is being conducted by Quentin Maire, PhD researcher at the University of Adelaide. This research will form the basis for the degree of Doctor of Philosophy at the University of Adelaide under the supervision of Dr Margaret Secombe, Dr Grant Rodwell, and Dr Vegneskumar Maniam.

Why am I being invited to participate?

You are invited to participate because you are currently in Year 12 in one of the IB schools selected for the study.

What will I be asked to do?

What is asked from you is simple: we would like you to fill a questionnaire. You can choose to fill either a paper version or an online version of the questionnaire. You are not expected to participate in any interview, observation or experiment of any kind. The questionnaire will be distributed to all the consenting Year 12 DP students in your school.

How much time will the project take?

The questionnaire takes no longer than fifteen to twenty minutes to fill. It does not require any specific knowledge. The questionnaire will be sent to you both in paper and electronic versions, so you can select the format at your convenience. You are totally free to organize yourself the way you want to fill the questionnaire.

Are there any risks associated with participating in this project?

Given the nature of the project, it does not entail any risk at all. Your education will not be impacted in any way if you choose not to participate.

What are the benefits of the research project?

This project may benefit the International Baccalaureate organization by clarifying the implications of the IB Strategic Goals 2011-2015 in the Australian context. This may lead to some policy recommendations for the IB in Australia. For the students, it might help to improve the teaching material and contents.

Concretely, the research team would like to provide factual data about the Diploma Programme students' opinions in order to assess the way in which the IB relates to educational advantage and disadvantage in Australia. Of course, these benefits are not 'assured' and clear before the study takes place, but the data collected will no doubt offer good statistics for understanding the DP in Australia. Because the study focuses on several schools throughout Australia, we will be pleased to have as many DP students as possible participating in the study. A high response rate would give credit to our results and make the study more valuable.

Can I withdraw from the project?

Participation in this project is completely voluntary. Even after you agree to participate, you can withdraw from the study at any time by contacting your DP coordinator.

What will happen to my information?

The information that you might provide will be totally safe. First, you are assured that your participation is **anonymous**: you will never be identified in any display of results or publication. Your responses will not be communicated to any school or any other institution. **If you decide to participate, please make sure to indicate your International Baccalaureate's Personal Identification Number (PIN) on the questionnaire, in order for us to process the data.** Your name will appear on the consent form but not on the questionnaire, and the consent forms will be kept strictly separate and never matched with the questionnaires.

The information will be confidentially stored, and the access to these data is restricted to the researcher leading the project, as well as the two researchers associated to supervise the project at the University of Adelaide. The data (paper or on a hard drive) will be kept in a locker at the University of Adelaide facilities for five years, and will then be destroyed. The results of the study will lead to academic publications. Our priority, for any publication, is to ensure that no harm is done to any school or student who accepted to participate in the study. The results as displayed in the doctoral thesis will be communicated to the participating schools upon request placed by these schools, and only after completion of the research project (expected in July 2016).

Additionally, your PIN number might be used to collect the Theory of Knowledge (TOK) essay you are required to submit for your Diploma Programme. Studying the essay you write can help us to relate what the IB wants to teach and what knowledge and ideas the students have. Once again, this will be done through the Research Department of the International Baccalaureate organization, and we guarantee that your identity will be kept confidential and never revealed.

The online version of the survey is being conducted using SurveyMonkey software which is based in the United States of America. Information you provide on this survey will be transferred to SurveyMonkey server in the United States of America. By completing this survey, you agree to this transfer.

Who do I contact if I have questions about the project?

For further inquiries, please contact Dr Margaret Secombe (Adjunct Senior Lecturer at the School of Education, the University of Adelaide) at margaret.secombe@adelaide.edu.au or 8313 3604, or Quentin Maire (PhD researcher at the School of Education, the University of Adelaide) at quentin.maire@adelaide.edu.au. The other researchers associated to this project are Dr Vegneskumar Maniam (vmaniam@une.edu.au) and Dr Grant Rodwell (grant.rodwell@utas.edu.au).

What if I have a complaint or any concerns?

The study has been approved by the Human Research Ethics Committee at the University of Adelaide (approval number H-2014-194). If you have questions or problems associated with the practical aspects of your participation in the project, or wish to raise a concern or complaint about the project, then you should consult the Principal Investigator. Contact the Human Research Ethics Committee's Secretariat on phone (08) 8313 6028 or by email to hrec@adelaide.edu.au. If you wish to speak with an independent person regarding concerns or a complaint, the University's policy on research involving human participants, or your rights as a participant. Any complaint or concern will be treated in confidence and fully investigated. You will be informed of the outcome.

If I want to participate, what do I do?

We would be delighted to have you participating in our study. If you accept, the only things you are expected to do are (1) to complete the consent form given to you by your Diploma Programme coordinator, (2) to return that paper to your DP coordinator, (3) to complete the questionnaire (paper version or online) that will be given to you by you DP coordinator, and (4) to return the completed questionnaire to your DP coordinator/ submit the online completed questionnaire. Your contribution will be greatly appreciated, and we sincerely value your time. Thank you.

Yours sincerely,

Dr Grant Rodwell, Senior Lecturer

Quentin Maire, PhD researcher

Dr Vegneskumar Maniam, Lecturer

Dr Margaret Secombe, Adjunct Senior Lecturer

Appendix 5: Participant consent form



Human Research Ethics Committee (HREC)

**CONSENT BY PARENT OR LEGAL GUARDIAN TO STUDENT PARTICIPATION IN
NON HEALTH/MEDICAL RESEARCH**

1. I give consent to _____ 's involvement in the following research project:

Title:	The International Baccalaureate and educational advantage and disadvantage in Australia
Ethics Approval Number:	H-2014-194

2. I have read the attached Information Sheet and have had the project, so far as it affects him/her, fully explained to my satisfaction by the research worker. My consent is given freely.
3. Although I understand the purpose of the research project it has also been explained that involvement may not be of any benefit to him/her.
4. I have been informed that, while information gained during the study may be published, he/she will not be identified and his/her personal results will not be divulged.
5. I understand that he/she is free to withdraw from the project at any time.
6. I understand that his/her study at school will not be impacted if he/she does not participate in the study.
7. I am aware that I should keep a copy of this Consent Form, when completed, and the attached Information Sheet.

Parent of Legal guardian to Participant to Complete:

Name: _____ Signature: _____

Relationship to participant: _____ Date: _____

Participant to Complete:

Name: _____ Age: ____ years old

Signature: _____ Date: _____

Appendix 6: Contacts information and complaints procedure



The University of Adelaide Human Research Ethics Committee (HREC)

This document is for people who are participants in a research project.

CONTACTS FOR INFORMATION ON PROJECT AND INDEPENDENT COMPLAINTS PROCEDURE

The following study has been reviewed and approved by the University of Adelaide Human Research Ethics Committee:

Project Title:	The International Baccalaureate and educational advantage and disadvantage in Australia
Approval Number:	H-2014-194

The Human Research Ethics Committee monitors all the research projects which it has approved. The committee considers it important that people participating in approved projects have an independent and confidential reporting mechanism which they can use if they have any worries or complaints about that research.

This research project will be conducted according to the NHMRC National Statement on Ethical Conduct in Human Research (see <http://www.nhmrc.gov.au/publications/synopses/e72syn.htm>)

1. If you have questions or problems associated with the practical aspects of your participation in the project, or wish to raise a concern or complaint about the project, then you should consult the project co-ordinator:

Name:	Dr Margaret Secombe, Adjunct Senior Lecturer, School of Education, The University of Adelaide
Phone:	8313 3604

2. If you wish to discuss with an independent person matters related to:

- making a complaint, or
- raising concerns on the conduct of the project, or
- the University policy on research involving human participants, or
- your rights as a participant,

contact the Human Research Ethics Committee's Secretariat on phone (08) 8313 6028 or by email to hrec@adelaide.edu.au

Appendix 7: Student questionnaire

School of Education, The University of Adelaide



DIPLOMA PROGRAMME STUDENT SURVEY

This questionnaire exists in both paper and online versions. Please choose the version you prefer to complete. The online version of the questionnaire can be found at:

<https://www.surveymonkey.com/s/DiplomaProgramme>

In this questionnaire, you will find various questions about yourself, your experience in the International Baccalaureate Diploma Programme, as well as Australian education in general. Please read each question carefully and answer as accurately as you can. If you make a mistake when writing an answer, simply cross it out and write the correct answer next to it. Please try your best to answer all the questions. You may ask your Diploma Programme coordinator for help if you do not understand something or are not sure how to answer a question.

This questionnaire contains three types of questions.

Type 1 questions are followed by a few options. Please tick the box **or boxes** that best describe your situation or opinion. **Type 2** questions are factual answer questions. Please write down your answer (a word, a number or a statement). **Type 3** questions ask for a brief answer (two or three sentences are generally sufficient, but there is no restriction). Please write down your answer in the space allocated for it. If the space is not large enough, continue your answer under the box.

Your answers will be combined with answers from other students to calculate totals and averages. All information you provide to type 1, type 2 and type 3 questions will only be used for statistical and illustrative purposes. None of your responses will be disclosed, or used, in identifiable form for any other purposes.

Please make sure to indicate your International Baccalaureate (IB) Personal Identification Number (PIN) below.

This questionnaire will probably take you **approximately 15 minutes** to complete.

Your IB PIN: _ _ _ _ _

School of Education, The University of Adelaide



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intentionally left
blank.*

SECTION A – ABOUT YOU
Q1 Are you female or male?

Female	<input type="checkbox"/>	1
Male	<input type="checkbox"/>	2

Q2 Year of birth
(Please enter your 4-digit birth year; for example, 1997.)
Please write in the year: _ _ _ _
Q3 Are you an Aboriginal or Torres Strait Islander student?
(For persons of both Aboriginal and Torres Islander origin, tick both 'Yes' responses.)

No	<input type="checkbox"/>	1
Yes, Aboriginal	<input type="checkbox"/>	2
Yes, Torres Strait Islander	<input type="checkbox"/>	3

Q4 In what country were you and your parents born?
(Please tick one box in each column.)

	You	Mother	Father
Australia	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
China	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Germany	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hong Kong	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
India	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Indonesia	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Malaysia	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
New Zealand	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Philippines	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Singapore	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
South Africa	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
South Korea	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
United Kingdom	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Vietnam	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other <i>(please specify)</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Q5	If you were NOT born in Australia, how old were you when you arrived in Australia? (If you were less than one year old, please write zero (0)) (If you are born in Australia, please skip this question and go to Q6 on this page.)
Please write the age (in years):	

Q6	Who usually lives at home with you? (Please tick one box in each row.)																					
	<table border="1"> <thead> <tr> <th></th> <th style="background-color: #D9E1F2;">Yes</th> <th style="background-color: #D9E1F2;">No</th> </tr> </thead> <tbody> <tr> <td>a) Mother (including stepmother or foster mother)</td> <td style="text-align: center;"><input type="checkbox"/>₁</td> <td style="text-align: center;"><input type="checkbox"/>₂</td> </tr> <tr> <td>b) Father (including stepfather or foster father)</td> <td style="text-align: center;"><input type="checkbox"/>₁</td> <td style="text-align: center;"><input type="checkbox"/>₂</td> </tr> <tr> <td>c) Brother(s) (including half-brothers and stepbrothers)</td> <td style="text-align: center;"><input type="checkbox"/>₁</td> <td style="text-align: center;"><input type="checkbox"/>₂</td> </tr> <tr> <td>d) Sister(s) (including half-sisters and stepsisters)</td> <td style="text-align: center;"><input type="checkbox"/>₁</td> <td style="text-align: center;"><input type="checkbox"/>₂</td> </tr> <tr> <td>e) Grandparent(s)</td> <td style="text-align: center;"><input type="checkbox"/>₁</td> <td style="text-align: center;"><input type="checkbox"/>₂</td> </tr> <tr> <td>f) Cousin(s)</td> <td style="text-align: center;"><input type="checkbox"/>₁</td> <td style="text-align: center;"><input type="checkbox"/>₂</td> </tr> </tbody> </table>		Yes	No	a) Mother (including stepmother or foster mother)	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	b) Father (including stepfather or foster father)	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	c) Brother(s) (including half-brothers and stepbrothers)	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	d) Sister(s) (including half-sisters and stepsisters)	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	e) Grandparent(s)	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	f) Cousin(s)	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
	Yes	No																				
a) Mother (including stepmother or foster mother)	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂																				
b) Father (including stepfather or foster father)	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂																				
c) Brother(s) (including half-brothers and stepbrothers)	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂																				
d) Sister(s) (including half-sisters and stepsisters)	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂																				
e) Grandparent(s)	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂																				
f) Cousin(s)	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂																				

Q7	What language do you usually speak at home? (Please tick only one box.)				
	<table border="1"> <tbody> <tr> <td>English</td> <td style="text-align: center;"><input type="checkbox"/>₁</td> </tr> <tr> <td>Other</td> <td style="text-align: center;"><input type="checkbox"/>₂</td> </tr> </tbody> </table>	English	<input type="checkbox"/> ₁	Other	<input type="checkbox"/> ₂
English	<input type="checkbox"/> ₁				
Other	<input type="checkbox"/> ₂				
If you ticked 'Other', please write the language you speak:					

Q8	How many languages can you speak fluently? (Please tick only one box.)								
	<table border="1"> <tbody> <tr> <td>One</td> <td style="text-align: center;"><input type="checkbox"/>₁</td> </tr> <tr> <td>Two</td> <td style="text-align: center;"><input type="checkbox"/>₂</td> </tr> <tr> <td>Three</td> <td style="text-align: center;"><input type="checkbox"/>₃</td> </tr> <tr> <td>More than three</td> <td style="text-align: center;"><input type="checkbox"/>₄</td> </tr> </tbody> </table>	One	<input type="checkbox"/> ₁	Two	<input type="checkbox"/> ₂	Three	<input type="checkbox"/> ₃	More than three	<input type="checkbox"/> ₄
One	<input type="checkbox"/> ₁								
Two	<input type="checkbox"/> ₂								
Three	<input type="checkbox"/> ₃								
More than three	<input type="checkbox"/> ₄								

Q9	Have you ever been to one of these destinations? (Please tick one box in each row.)																																	
	<table border="1"> <thead> <tr> <th></th> <th style="background-color: #D9E1F2;">Yes</th> <th style="background-color: #D9E1F2;">No</th> </tr> </thead> <tbody> <tr> <td>a) Southeast Asia</td> <td style="text-align: center;"><input type="checkbox"/>₁</td> <td style="text-align: center;"><input type="checkbox"/>₂</td> </tr> <tr> <td>b) South Asia</td> <td style="text-align: center;"><input type="checkbox"/>₁</td> <td style="text-align: center;"><input type="checkbox"/>₂</td> </tr> <tr> <td>c) East Asia</td> <td style="text-align: center;"><input type="checkbox"/>₁</td> <td style="text-align: center;"><input type="checkbox"/>₂</td> </tr> <tr> <td>d) Western Europe</td> <td style="text-align: center;"><input type="checkbox"/>₁</td> <td style="text-align: center;"><input type="checkbox"/>₂</td> </tr> <tr> <td>e) Eastern Europe</td> <td style="text-align: center;"><input type="checkbox"/>₁</td> <td style="text-align: center;"><input type="checkbox"/>₂</td> </tr> <tr> <td>f) North America</td> <td style="text-align: center;"><input type="checkbox"/>₁</td> <td style="text-align: center;"><input type="checkbox"/>₂</td> </tr> <tr> <td>g) Central America</td> <td style="text-align: center;"><input type="checkbox"/>₁</td> <td style="text-align: center;"><input type="checkbox"/>₂</td> </tr> <tr> <td>h) South America</td> <td style="text-align: center;"><input type="checkbox"/>₁</td> <td style="text-align: center;"><input type="checkbox"/>₂</td> </tr> <tr> <td>i) Middle East</td> <td style="text-align: center;"><input type="checkbox"/>₁</td> <td style="text-align: center;"><input type="checkbox"/>₂</td> </tr> <tr> <td>j) Africa</td> <td style="text-align: center;"><input type="checkbox"/>₁</td> <td style="text-align: center;"><input type="checkbox"/>₂</td> </tr> </tbody> </table>		Yes	No	a) Southeast Asia	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	b) South Asia	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	c) East Asia	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	d) Western Europe	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	e) Eastern Europe	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	f) North America	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	g) Central America	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	h) South America	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	i) Middle East	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	j) Africa	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
	Yes	No																																
a) Southeast Asia	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂																																
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i) Middle East	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂																																
j) Africa	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂																																

SECTION B – ABOUT YOUR FAMILY

Q1 **What is the occupation group of each of your parents?**
*(Please select the appropriate parental occupation group from the list on page 6 (1, 2, 3 or 4))
 (If the person does not currently work but has had a job in the last 12 months or has retired in the last 12 months, please use the person's last occupation)
 (If the person has not been working in the last 12 months, tick the box in the 'None' column)
 (Please tick one box in each row.)*

		Group 1	Group 2	Group 3	Group 4	None
a)	Mother	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
b)	Father	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅

Q2 **What is the employment situation of each of your parents?**
*(If you ticked 'None' for a person in Q1, please tick 'None' for that person in Q2)
 (Please tick one box in each row.)*

		Paid occupation	Non-paid occupation	None
a)	Mother	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃
b)	Father	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃

Q3 **What are your parents currently doing?**
(Please tick one box in each row.)

		Working full-time	Working part-time	Not working, but looking for a job	Other (e.g. housewife, retired)
a)	Mother	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄
b)	Father	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄

Q4 **What is your mother's main job?**
*(e.g. dentist, kitchen-hand, sales manager)
 (If she is not working now, please tell us her last main job.)*

Please write in the job title:

Q5 **What does your mother do in her main job?**
(e.g. she provides dental treatment in a private clinic, she dishes the meals in a canteen, she manages a sales team.)

Please use a sentence to describe what she does (did) in that job:

LIST OF PARENTAL OCCUPATION GROUPS

Group 1: Senior management in large business organisation, government administration and defence, and qualified professionals

- **Senior executive/manager/department head in industry, commerce, media or other large organisation**
- **Public service manager** (section head or above), regional director, health/education/police/fire services administrator
- **Other administrator** (school principal, faculty head/dean, library/museum/gallery director, research facility director)
- **Defence forces** Commissioned Officer
- **Professionals** generally have degree or higher qualifications and experience in applying this knowledge to design, develop or operate complex systems; identify, treat and advise on problems; and teach others.
- **Health, Education, Law, Social Welfare, Engineering, Science, Computing** professional
- **Business** (management consultant, business analyst, accountant, auditor, policy analyst, actuary, valuer)
- **Air/sea transport** (aircraft/ship's captain/officer/pilot, flight officer, flying instructor, air traffic controller)

Group 2: Other business managers, arts/media/sportspersons and associate professionals

- **Owner/manager** of farm, construction, import/export, wholesale, manufacturing, transport, real estate business
- **Specialist manager** (finance/engineering/production/personnel/industrial relations/sales/marketing)
- **Financial services manager** (bank branch manager, finance/investment/insurance broker, credit/loans officer)
- **Retail sales/services manager** (shop, petrol station, restaurant, club, hotel/motel, cinema, theatre, agency)
- **Arts/media/sports** (musician, actor, dancer, painter, potter, sculptor, journalist, author, media presenter, photographer, designer, illustrator, proof reader, sportsman/woman, coach, trainer, sports official)
- **Associate professionals** generally have diploma/technical qualifications and support managers and professionals.
- **Health, Education, Law, Social Welfare, Engineering, Science, Computing** technician/associate professional
- **Business/administration** (recruitment/employment/industrial relations/training officer, marketing/advertising specialist, market research analyst, technical sales representative, retail buyer, office/project manager)
- **Defence Forces** senior Non-Commissioned Officer (NCO)

Group 3: Tradespeople, clerks and skilled office, sales and service staff

- **Tradespeople** generally have completed a 4-year trade certificate, usually by apprenticeship. All tradespeople are included in this group.
- **Clerks** (bookkeeper, bank/PO clerk, statistical/actuarial clerk, accounting/claims/audit clerk, payroll clerk, recording/registry/filing clerk, betting clerk, stores/inventory clerk, purchasing/order clerk, freight/ transport/shipping clerk, bond clerk, customs agent, customer services clerk, admissions clerk)
- **Skilled office, sales and service staff:**
 - **Office** (secretary, personal assistant, desktop publishing operator, switchboard operator)
 - **Sales** (company sales representative, auctioneer, insurance agent/assessor/loss adjuster, market researcher)
 - **Service** (aged/disabled/refugee/child care worker, nanny, meter reader, parking inspector, postal worker, courier, travel agent, tour guide, flight attendant, fitness instructor, casino dealer/supervisor)

Group 4: Machine operators, hospitality staff, assistants, labourers and related workers

- **Drivers, mobile plant, production/processing machinery and other machinery operators.**
- **Hospitality staff** (hotel service supervisor, receptionist, waiter, bar attendant, kitchen-hand, porter, housekeeper)
- **Office assistants, sales assistants and other assistants:**
 - **Office** (typist, word processing/data entry/business machine operator, receptionist, office assistant)
 - **Sales** (sales assistant, motor vehicle/caravan/parts salesperson, checkout operator, cashier, bus/train conductor, ticket seller, service station attendant, car rental desk staff, street vendor, telemarketer, shelf stacker)
 - **Assistant/aide** (trades assistant, school/teacher's aide, dental assistant, veterinary nurse, nursing assistant, museum/gallery attendant, usher, home helper, salon assistant, animal attendant)
- **Labourers and related workers**
- **Defence Forces** ranks below senior NCO not included above
- **Agriculture, horticulture, forestry, fishing, mining worker** (farm overseer, shearer, wool/hide classer, farm hand, horse trainer, nurseryman, greenkeeper, gardener, tree surgeon, forestry/logging worker, miner, seafarer/fishing hand)
- **Other worker** (labourer, factory hand, storeman, guard, cleaner, caretaker, laundry worker, trolley collector, car park attendant, crossing supervisor)

Q6 **What is your father's main job?**
(e.g. dentist, kitchen-hand, sales manager)
(If he is not working now, please tell us his last main job.)

Please write in the job title:

Q7 **What does your father do in his main job?**
(e.g. he provides dental treatment in a private clinic, he dishes the meals in a canteen, he manages a sales team.)

Please use a sentence to describe what he does (did) in that job:

Q8 **Do your parents have any of the following qualifications?**
(Please tick at least one box in each column)
(If you are not sure which boxes to tick, please ask your parents for help.)

	Mother	Father
a) Post-secondary non-tertiary certificate (Certificate I, II, III or IV)	<input type="checkbox"/> ₁	<input type="checkbox"/> ₁
b) Short-cycle tertiary degree (Diploma or Advanced Diploma)	<input type="checkbox"/> ₂	<input type="checkbox"/> ₂
c) Bachelor degree (e.g. Bachelor of Science (Chemistry))	<input type="checkbox"/> ₃	<input type="checkbox"/> ₃
d) Bachelor Honours degree, Graduate Certificate or Graduate Diploma (e.g. Graduate Diploma in Technology Management)	<input type="checkbox"/> ₄	<input type="checkbox"/> ₄
e) Masters' degree (coursework or research masters)	<input type="checkbox"/> ₅	<input type="checkbox"/> ₅
f) Doctoral degree (professional or research doctorate)	<input type="checkbox"/> ₆	<input type="checkbox"/> ₆
g) None of the above	<input type="checkbox"/> ₇	<input type="checkbox"/> ₇

Q9 **What is the highest level of schooling completed by your parents?**
(‘Schooling’ refers to the Year 1 to Year 12 range and does not include your parents’ higher education)
(If you are not sure which boxes to tick, please ask your parents for help.)

		Year 9 or equivalent or below	Year 10 or equivalent	Year 11 or equivalent	Year 12 or equivalent
a)	Mother	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄
b)	Father	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄

SECTION C – YOUR FUTURE EXPECTATIONS

Q1	Do you intend to go to university after completing high school?	
	Yes	<input type="checkbox"/> ₁
	No	<input type="checkbox"/> ₂
	I don't know	<input type="checkbox"/> ₃

Q2	If you intend to go to university, where would you like to study next year? <i>(If you intend to take a gap year after completing your Diploma Programme, please indicate where you would like to study after your gap year)</i> <i>(If you do not intend to go to university, please skip this question and go directly to Q4.)</i>	
	In the Australian state or territory I am currently living in	<input type="checkbox"/> ₁
	Interstate within Australia	<input type="checkbox"/> ₂
	Overseas	<input type="checkbox"/> ₃

Q3	If you intend to go to university, what university would you like to go to next year? <i>(If you intend to take a gap year after completing your Diploma Programme, please indicate where you would like to study after your gap year)</i> <i>(If you do not intend to go to university, please skip this question and go directly to Q4.)</i>	
	Please write in the name of the university:	

Q4	What course would you like to study after completing your Diploma Programme? <i>(e.g. bachelor of teaching, certificate IV in interior decoration.)</i>	
	Please write in the name of the course:	

Q5	What main job would you like to do after you finish your study? <i>(e.g. government lawyer, naval architect, high school teacher.)</i>	
	Please write in the job description:	

Q6	Do you know anybody who is doing the job you would like to do after you finish your study?	
	Yes, one person	<input type="checkbox"/> ₁
	Yes, two or three persons	<input type="checkbox"/> ₂
	Yes, more than three persons	<input type="checkbox"/> ₃
	No	<input type="checkbox"/> ₄

Q7

If you DO know somebody doing that job, how familiar are you with that person?
(To answer this question, please choose the person you are most familiar with)
(If you don't know anybody doing the job you would do after you finish your study, please skip this question and go directly to the section D.)

I know about that person but haven't met him/her in person	<input type="checkbox"/>	1
I have met with that person once	<input type="checkbox"/>	2
I have met with that person two or three times	<input type="checkbox"/>	3
I have met with that person more than three times	<input type="checkbox"/>	4

SECTION D – YOUR DIPLOMA PROGRAMME EXPERIENCE

Q1

What school are you currently attending?

Please write in the school name:

Q2

Have you been enrolled in the International Baccalaureate Primary Years Programme or Middle Years Programme?

(Please tick one box in each row.)

		Yes	No
a)	Primary Years Program (PYP)	<input type="checkbox"/>	<input type="checkbox"/>
b)	Middle Years Program (MYP)	<input type="checkbox"/>	<input type="checkbox"/>

Q3

What are the main reason(s) (up to three) for having enrolled in the Diploma Programme (DP)?

(Please use one or several sentences to explain up to three main reasons.)

Reason one:

Reason two:

Reason three:

Q4	How would you describe your academic results in the Diploma Programme so far? (Please tick only one box.)	
	Unsatisfactory	<input type="checkbox"/> ₁
	Borderline	<input type="checkbox"/> ₂
	Satisfactory	<input type="checkbox"/> ₃
	Good	<input type="checkbox"/> ₄
	Excellent	<input type="checkbox"/> ₅

Q5	What band score did you achieve for each of the five NAPLAN Year 9 tests? (NAPLAN is the The National Assessment Program – Literacy and Numeracy) (Your NAPLAN Year 9 results can be found on your Student Report document) (Please tick one box in each row.)							
		Band 5	Band 6	Band 7	Band 8	Band 9	Band 10	
	a)	Reading	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅	<input type="checkbox"/> ₆
	b)	Persuasive Writing	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅	<input type="checkbox"/> ₆
	c)	Spelling	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅	<input type="checkbox"/> ₆
	d)	Grammar & Punctuation	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅	<input type="checkbox"/> ₆
e)	Numeracy	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅	<input type="checkbox"/> ₆	

Q6	What score are you expecting for your Diploma Programme? (Please indicate the overall number of points, inclusive of the possible bonus points from the Extended Essay and Theory of Knowledge courses) (Please tick only one box.)	
	42 or more	<input type="checkbox"/> ₁
	38 to 41	<input type="checkbox"/> ₂
	35 to 37	<input type="checkbox"/> ₃
	32 to 34	<input type="checkbox"/> ₄
	28 to 31	<input type="checkbox"/> ₅
	24 to 27	<input type="checkbox"/> ₆
	20 to 23	<input type="checkbox"/> ₇
	Less than 20	<input type="checkbox"/> ₈

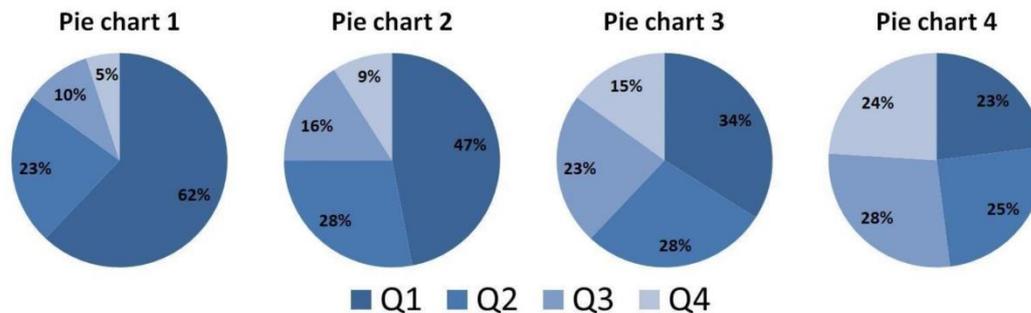
Q7	In what subject group is your Extended Essay? (Please tick only one box.)	
	Group 1: Language A and Literature	<input type="checkbox"/> ₁
	Group 2: Language B	<input type="checkbox"/> ₂
	Group 3: Individuals and Societies	<input type="checkbox"/> ₃
	Group 4: Sciences	<input type="checkbox"/> ₄
	Group 5: Mathematics	<input type="checkbox"/> ₅
	Group 6: The Arts	<input type="checkbox"/> ₆
	World Studies	<input type="checkbox"/> ₇
	Other (e.g. interdisciplinary subject or pilot subject) <i>If you ticked 'Other', please write your type of subject:</i>	<input type="checkbox"/> ₈

Q8	What activities do you do for the Creativity, Action, Service (CAS) subject?	
	<i>Please use one or several sentences to describe the main activities you engage in:</i>	
Q9	Do you take additional out-of-school tutoring lessons?	
	Yes	<input type="checkbox"/> ₁
	No	<input type="checkbox"/> ₂
Q10	If you answered 'Yes' to Q9, in what subject(s) do you take additional tutoring lessons? <i>(If you answered 'No' to Q9, please skip this question and go directly to section E.)</i>	
	<i>Please write in the subject(s):</i>	

SECTION E –THE DP AND AUSTRALIAN EDUCATION

For the next question, we have divided the total student population of Australia (primary and secondary schools, offering the DP or not) into four socio-economic quartiles. Each student has been assigned to one of the quartiles based on his or her parents' education and occupation. 'Q1' represents the group of students with the highest socio-economic background, while 'Q4' represents the group of students with the lowest socio-economic background.

Each of the four pie charts illustrated on the next page represents a SCHOOL socio-economic profile based on the students' socio-economic background. For example, pie chart 1 represents a school with 62% of students from Q1, 23% of students from Q2, 10% of students from Q3, and 5% of students from Q4.



Q1	Each school offering the DP in Australia has its own socio-economic profile. According to you, which one of the four pie charts above best represents the TYPICAL student population of an Australian school offering the DP? <i>(Please note that this question does not refer to the socio-economic profile of the DP student population in that specific school, but to the overall school population.)</i>	
	Pie chart 1	<input type="checkbox"/> ₁
	Pie chart 2	<input type="checkbox"/> ₂
	Pie chart 3	<input type="checkbox"/> ₃
	Pie chart 4	<input type="checkbox"/> ₄

Q2	How does your school's proportion of students from Q1 compare to the average socio-economic profile of Australian schools implementing the DP?	
	Compared to the average Australian school offering the DP, my school has significantly more students from the highest socio-economic quartile (Q1)	<input type="checkbox"/> ₁
	Compared to the average Australian school offering the DP, my school has approximately the same proportion of students from the highest socio-economic quartile (Q1)	<input type="checkbox"/> ₂
	Compared to the average Australian school offering the DP, my school has significantly less students from the highest socio-economic quartile (Q1)	<input type="checkbox"/> ₃

Q3	How does your school's proportion of students from Q4 compare to the average socio-economic profile of Australian schools implementing the DP?	
	Compared to the average Australian school offering the DP, my school has significantly more students from the lowest socio-economic quartile (Q4)	<input type="checkbox"/> ₁
	Compared to the average Australian school offering the DP, my school has approximately the same proportion of students from the lowest socio-economic quartile (Q4)	<input type="checkbox"/> ₂
	Compared to the average Australian school offering the DP, my school has significantly less students from the lowest socio-economic quartile (Q4)	<input type="checkbox"/> ₃

Q4 Please answer each of the following statements about Australian education.
 (Please tick one box in each row.)

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
a) A student with an advantaged background has a better chance to enter in the DP than a student with a disadvantaged background. (<i>'Advantaged' refers to students having a comparatively favourable position in terms of economic or social circumstances</i>)	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
b) A student with an advantaged background has a better chance to do well in the DP than a student with a more disadvantaged background.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
c) A student with an advantaged background has a better chance to obtain good NAPLAN scores than a student with a more disadvantaged background.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
d) A school having more students with an advantaged background has a better chance to obtain good NAPLAN scores than a school having less students with an advantaged background. (<i>A school's NAPLAN scores is the average of its students' NAPLAN scores.</i>)	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
e) Compared to all Australian schools offering the DP, a DP school having more students with an advantaged background has a better chance to obtain good NAPLAN scores than a DP school having less students with an advantaged background.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
f) A student with an advantaged background has a better chance to enter university than a student with a more disadvantaged background.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
g) A student with an advantaged background has a better chance to enter a selective university degree than a student with a more disadvantaged background. (<i>'Selective' refers to entry requirements which only a small fraction of Year 12 graduates meet</i>)	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
h) A student with an advantaged background has a better chance to do well at university than a student with a more disadvantaged background.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
i) A student with an advantaged background has a better chance to access a high-paying job than a student with a more disadvantaged background.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅

Q5 Please answer each of the following statements about the Diploma Programme in Australia.
(Please tick one box in each row.)

		Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
a)	Overall, DP teachers are better teachers than non-DP teachers.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
b)	Teaching the DP is more demanding for teachers than teaching the local high school curriculum.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
c)	DP teachers prefer teaching DP students than non-DP students.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
d)	Overall, DP students are better students than non-DP students.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
e)	Studying the DP is more demanding than studying the local high school curriculum.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
f)	The pace of studying the DP is faster than the pace of studying the local high school curriculum.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
g)	DP students study their subjects in greater depth than non-DP students.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
h)	In Australia, DP students generally obtain higher Australian Tertiary Admission Rank (ATAR) scores than non-DP students.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
i)	The DP is a better preparation for selective university entrance than the local high school curriculum.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
j)	The DP is a better preparation for academic success at university than the local high school curriculum.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅

Thank you very much for your participation! ☺

Appendix 8: DP-ATAR conversion tables

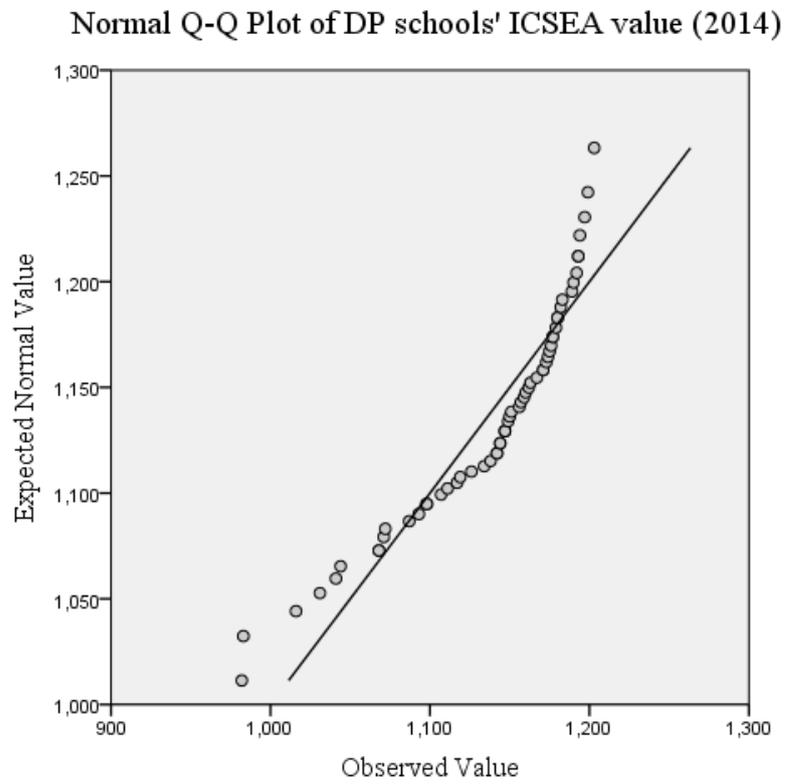
Passing Score	NSW, VIC, QLD & WA ATAR	SA, NT, TAS ATAR
45	99.95	99.95
44	99.85	99.95
43	99.75	99.95
42	99.45	99.95
41	98.85	99.90
40	98.30	99.80
39	97.55	99.35
38	96.70	98.45
37	95.80	97.25
36	94.40	96.00
35	93.25	95.30
34	92.05	94.45
33	90.60	93.80
32	88.85	93.00
31	86.90	91.80
30	83.85	89.30
29	81.20	86.80
28	79.25	84.80
27	77.05	81.30
26	74.65	78.75
25	71.60	75.10
24	68.10	71.40

Appendix 9: DP schools' resources and ICSEA: descriptive statistics

	Index of Community Socio-Educational Advantage (ICSEA) value (2014)	Number of students per teacher (both as full-time equivalent) (2014)	Net recurrent income per student (2013)
N	60	60	60
Minimum	982	7.9	10,654.0
Maximum	1203	15.8	36,767.0
Mean	1137.32	10.746	19,956.150
Std. Deviation	54.466	1.9482	5,208.5868
Skewness	-1.207	.742	.447
Std. Error	.309	.309	.309
Kurtosis	.872	-.261	.356
Std. Error	.608	.608	.608

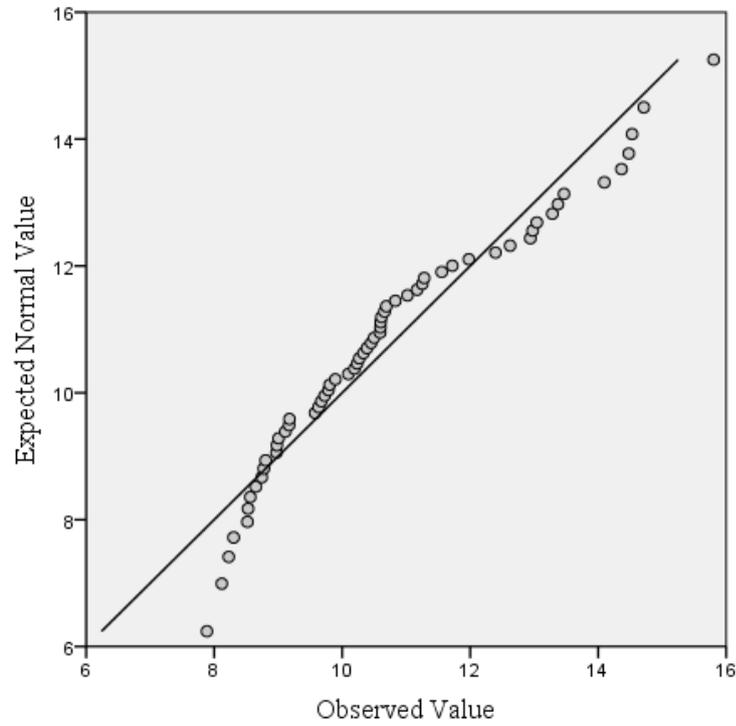
Descriptive statistics for Australian DP schools' ICSEA value (2014), number of students per teacher (2014), and net recurrent income per student (2013)

Appendix 10: Q-Q Plot: DP schools' ICSEA

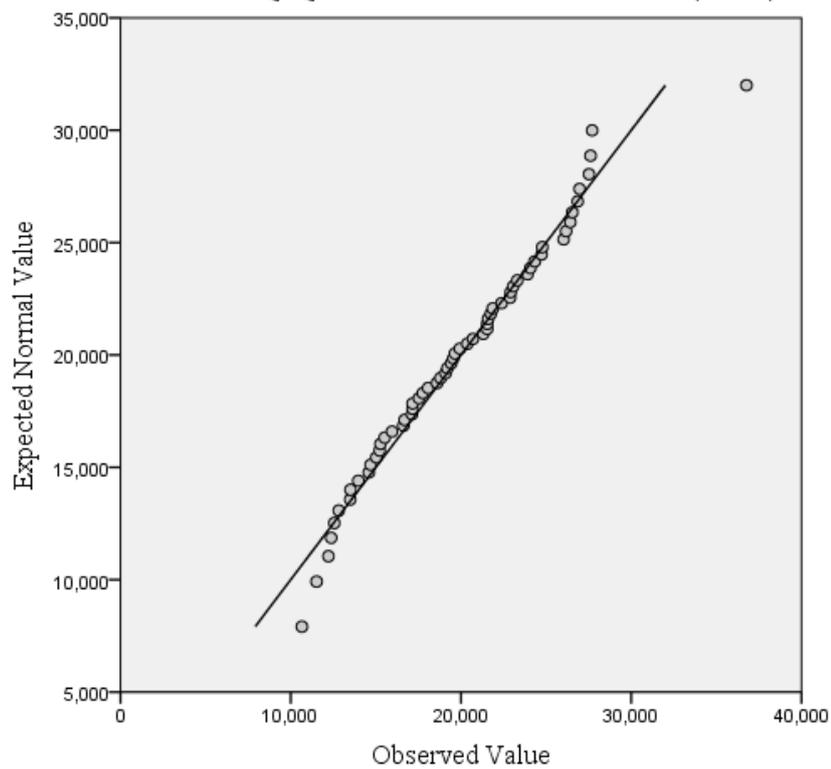


Appendix 11: Q-Q Plots: DP schools' resources

Normal Q-Q Plot of DP schools' number of students per teacher (2014)



Normal Q-Q Plot of DP schools' NRIPS (2013)

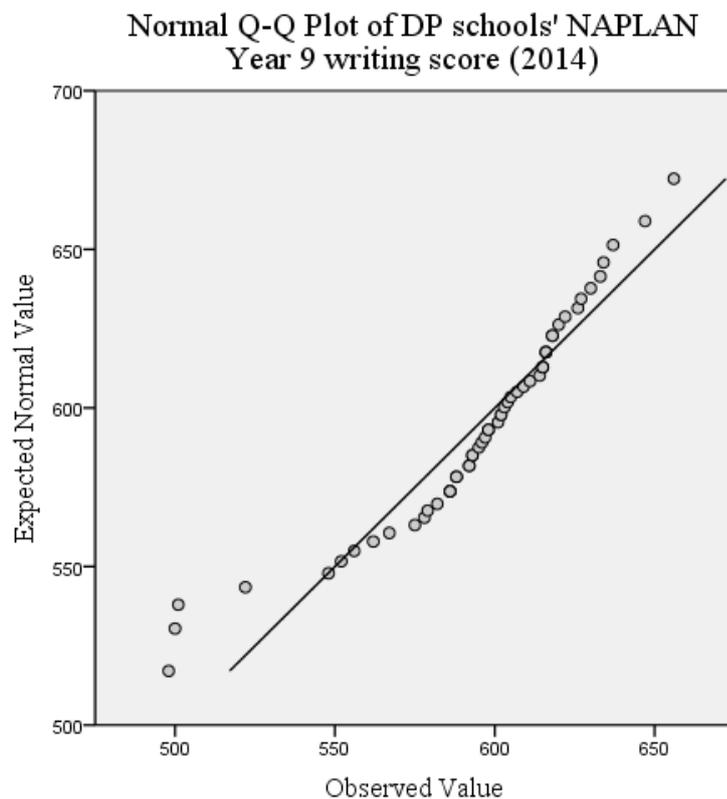
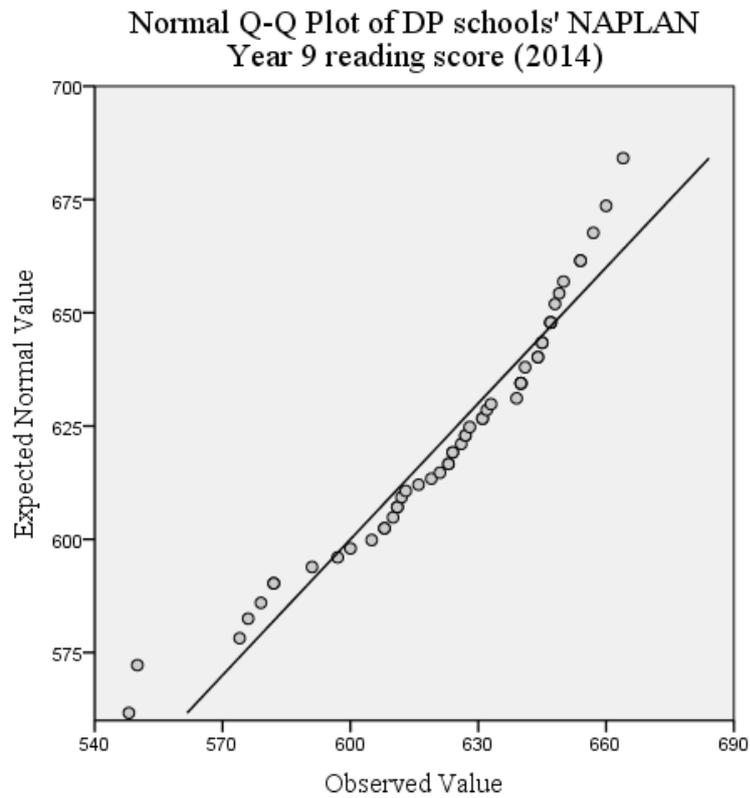


Appendix 12: DP schools' NAPLAN scores: descriptive statistics

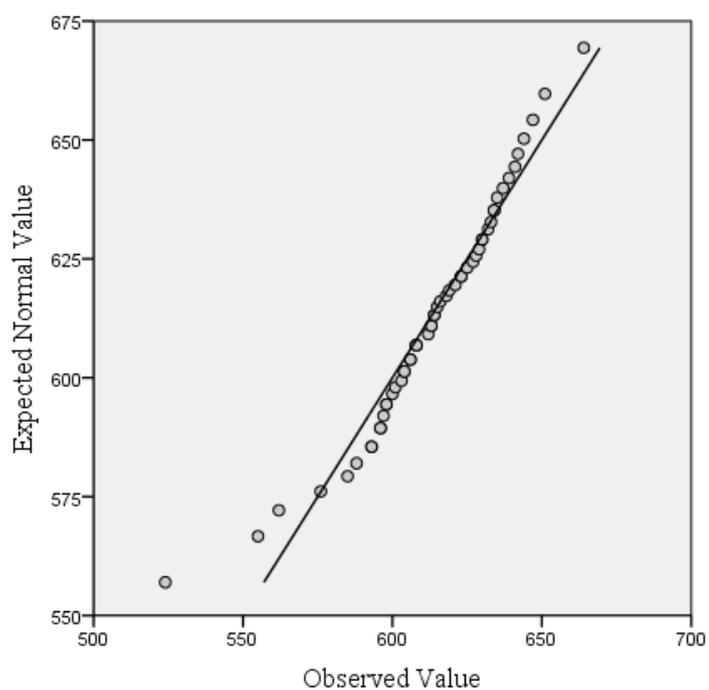
	School score in NAPLAN Year 9 reading (2014)	School score in NAPLAN Year 9 writing (2014)	School score in NAPLAN Year 9 spelling (2014)	School score in NAPLAN Year 9 grammar (2014)	School score in NAPLAN Year 9 numeracy (2014)
N	54	54	54	54	54
Minimum	548	498	524	552	552
Maximum	664	656	664	671	701
Mean	622.91	594.67	613.19	620.94	632.13
Std. Deviation	26.938	34.143	24.725	29.767	31.008
Skewness	-.945	-1.215	-1.011	-.352	-.603
Std. Error	.325	.325	.325	.325	.325
Kurtosis	.573	1.809	2.449	-.473	.095
Std. Error	.639	.639	.639	.639	.639

Descriptive statistics for Australian DP schools' NAPLAN Year 9 scores (2014)

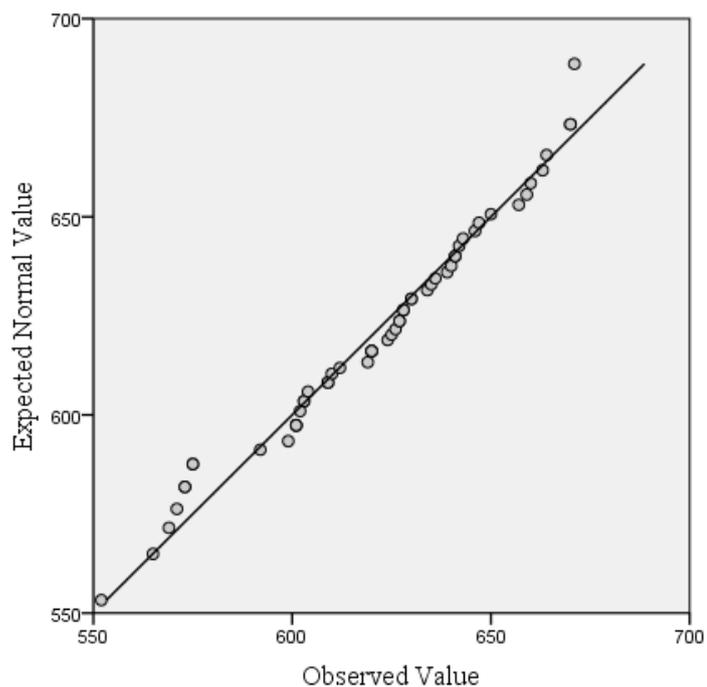
Appendix 13: Q-Q Plots: DP schools' NAPLAN Year 9 scores



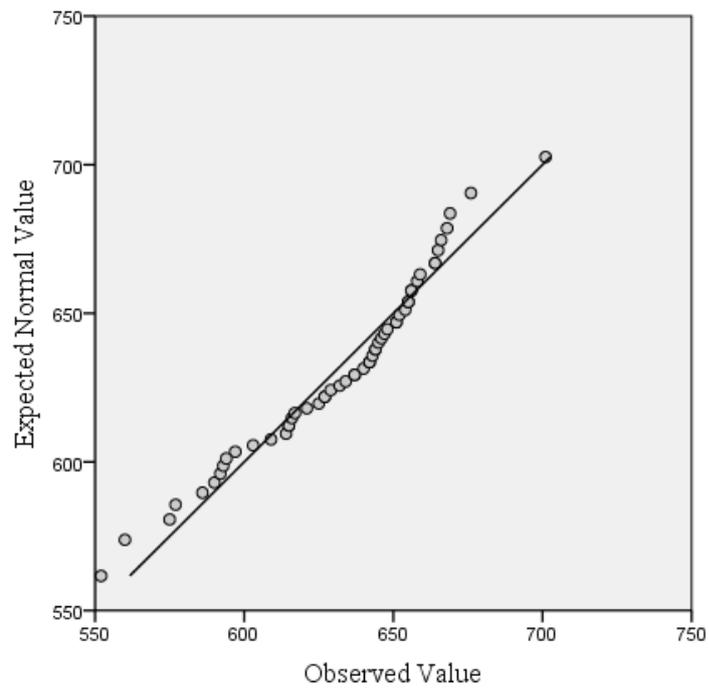
Normal Q-Q Plot of DP schools' NAPLAN
Year 9 spelling score (2014)



Normal Q-Q Plot of DP schools' NAPLAN
Year 9 grammar score (2014)



Normal Q-Q Plot of DP schools' NAPLAN
Year 9 numeracy score (2014)



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