

Curricular Differentiation and Stratification in Australia

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Abstract: This paper examines curricular differentiation and stratification in the Australian education system. Our aim is to contribute to the development of a comparative framework about curricular differentiation and stratification in national systems of education. Using a typology from LeTender, Hofer and Shimizu (2003), we show how and where curricular differentiation and stratification occur in Australia. We draw on secondary sources and our insider, lived knowledge to show how and where curricular differentiation and stratification occur as well as the structural features of Australian schooling that mediate them. Curricular differentiation and stratification are not widely researched in the Australian context, suggesting that these processes are naturalised. As such, this paper presents preliminary insights that can serve as a foundation for future research.

Keywords: curricular differentiation, curricular stratification, Australia

In this paper we examine how curricular differentiation and stratification occur in Australia. We define curricular differentiation as the process by which individual students are provided different curricular opportunities based on their varying needs, interests, motivations and abilities. Curricular differentiation happens, to a greater or lesser degree, in all education systems, including comprehensive systems such as Australia's. It is not necessarily inequitable, especially if conducted flexibly and in a way that respects student differences while also attempting to maximise all students' learning. We define curricular stratification as the process by which groups of students, defined by ascriptive characteristics such as gender, ethnicity or social class, are consistently provided different curricular opportunities with varying levels of status and pathways for further study and life opportunities. For example, curricular stratification occurs when students from marginalised social groups are regularly and substantially over-represented in remedial or "special education" classes. We argue that curricular stratification is unjust because it reproduces educational inequalities which in turn reproduce other forms of inequality within the larger society. It is also inefficient because it often stunts students' development.

Curricular differentiation and stratification comprise a wide range of practices, from ability grouping within classrooms at one extreme to curricular differentiation between schools at the other. In this paper we provide an overview of the forms of curricular differentiation and stratification that occur in Australia, as have been documented in research studies and other secondary sources. We also examine the

28 systemic features of Australian schooling that foster curricular differentiation and stratification.

For international readers, the Australian case can contribute to a larger theoretical understanding about curricular differentiation and stratification and the policies, practices and structures that mediate them. A large part of this paper is therefore devoted to describing in fine-grained detail the features of Australian schooling that are relevant for understanding how and why curricular differentiation and stratification occur. We conclude with some insights about ways in which particular educational policies and structures can exacerbate curricular stratification. Understanding these relationships can provide insight that may be useful for other countries that are seeking to reduce educational inequalities by ameliorating curricular stratification.

1 Theory & research about curricular differentiation and stratification

Much of the literature about curricular differentiation and stratification in comprehensive education systems focuses on access to rigorous academic curricula. Access to rigorous academic curricula can be examined as it is patterned by practices and structures that occur within schools or between schools. Within-school access is shaped by tracking practices. In comprehensive secondary education systems, schools typically offer core curricular areas such as English and mathematics in tracks or streams with varying levels of rigour and depth (LeTendre et al., 2003). Placement in the most rigorous track is often selective and based on students' prior achievement or some other measure such as an aptitude test. In many instances, students in the lowest tracks experience negative learning environments which are associated with higher rates of school dropout (Werblow, Urick, & Duesbery, 2013). Most researchers therefore caution that within-school tracking needs to be implemented carefully to minimize stunted learning opportunities (Hallinan, 2000). Cautions about tracking are especially warranted since research has consistently shown that students from marginalised backgrounds are less likely to be placed in the most rigorous tracks than are their more privileged peers. The social stratification of within-school curriculum opportunities has been extensively documented in a range of contexts, including the United States (Burriss, Welner, & Bezoza, 2009) Gamoran, 1987; Oakes, 1990; Orfield, 1996; Tate, 1997), Australia (Lamb, Hogan, & Johnson, 2001), Canada (Lessard, Larose, Duchesne, & Feng, 2014) and cross-nationally (Schmidt, Burroughs, Zoido, & Houang, 2015).

1.1 Approach

We are interested in mapping the range of mechanisms that are related to curricular differentiation and stratification in Australia, for the purpose of deepening

our comparative understanding of these mechanisms as they occur in a variety of national contexts. As such, we use a conceptual framework that accounts for these mechanisms as they occur both within schools and between schools. We use the framework developed by LeTendre, Hofer and Shimizu (2003), which they name a typology of curricular differentiation. It consists of five types of structures and processes which result in differentiated (and stratified) curricula. The types are ordered from the formal and rigid (Type 1) to the unplanned (Type 5). We chose the framework by LeTendre and colleagues for two reasons. First, as described by Dupriez, Dumay and Vause (2008), their framework accounts for differences within comprehensive education systems. This is a point of difference from other frameworks that focus exclusively on differences between comprehensive and selective/differentiated systems, such as the framework by Hanushek and Wößmann (2006). Second, LeTendre et al.'s framework is available in English. The framework by Mons (2007), which Dupriez et al. (2008) used for their study, could be useful if we were able to read French.

We next describe the features of Australian schooling that have the potential to shape curricular differentiation and stratification. We provide a fair amount of detail about a broad range of features that relate to how schools are organised, managed and funded, and also how curricula are designed and assessed. We describe these features of Australian schooling with both breadth and depth to open up rich and possibly new insights about the processes of curricular differentiation and stratification and the policies and structures that shape them. We draw on secondary sources and our own lived experiences to describe these features of Australian schooling.

Finally, we use LeTendre et al.'s typology to examine the forms of curricular differentiation and stratification in Australia. As in our depiction of Australian schooling, we draw on secondary sources and our insider, lived experiences. As such, our findings should be considered a first step towards a larger, more comprehensive study of curricular differentiation and stratification in Australia.

1.2 Theoretical framework

As described earlier, we use LeTendre and colleagues (2003) typology to show how curricular differentiation and stratification occurs in Australia. We describe their typology in this section. Table 1 below provides an overview of the typology.

Type 1 relates to the curricular differentiation that occurs between types of schools. These school type differences are formal and structural, rather than random or accidental. They have different purposes and names, and offer different forms of curricula and different post-school pathways for entering the labour force or further study. Type 1 typically occurs at the end of primary or lower secondary school, and is common in many European countries. For example, the Czech Republic has three types of upper secondary institutions (for students from Year 10 and higher): academic (gymnasia), technical (prumyslovka), and vocational/trades

30 Table 1 Typology of Curricular Differentiation

Type 1: School type

Curricular differentiation by school type implies differences in the organizational forms of schooling. Schools at the same level exhibit formal differences in curriculum and instructional style and often offer students distinct differences in educational trajectories (e.g., workforce entry as opposed to tertiary education). Entry is typically controlled by formal selection mechanisms, and it is usually difficult for students to move from one type to another.

Type 2: Course of study

Curricular differentiation by course of study involves the provision of more than one formal path that students may follow within a given school or school type. Typically there is a distinct core of academic classes for each course of study. A particular course has the same core curriculum across the nation (or state), and it is typically difficult for students to move from one course to another.

Type 3: Stream

Curricular differentiation by stream occurs gradually over time in terms of the number and difficulty of courses. Entry into a stream typically is determined by student interest and past grades, and movement between streams is more fluid than in Type 2. Differentiation by stream is referred to by various terms, such as tracking, streaming, or lanes.

Type 4: Ability Grouping

Curricular (or at least instructional) differentiation by ability group occurs within one class or grade, on the basis of some measure or estimation of student ability. Students may form separate groups within the same classroom or be “pulled out” to study elsewhere. Examples are ability-based reading groups, gifted and talented programs, and some kinds of special education classes. A wide range of criteria, ranging from standardized tests to teacher assessment, determines entry. Movement out of ability group tracking may be fluid in the early stages but becomes progressively more difficult.

Type 5: Geographic location

Differences in curricular offerings, instructional quality, and opportunity to learn occur among schools of the same type depending on the social composition and funding base in the geographic area where the schools are located. Such differentiation can occur locally or regionally.

Adapted from LeTendre et al. (2003).

(uciliste). Finland has two types of upper secondary institutions, also for students from Year 10: general academic school (lukio) and vocational school (ammattikoulu). Approximately 40% of students in Finland attend a vocational upper secondary school (Finnish National Board of Education, 2016). Type 1 curricular differentiation is not common in the United States (LeTendre et al., 2003) or most other English-speaking countries. Rather than provide vocational education in a different type of school, options for vocational schooling are embedded within the one type of “high school” or provided by non-school organisations.

Type 2 comprises curricular differentiation that is the result of formal pathways about a broad disciplinary area (e.g., health sciences, business, humanities). These courses of study are typically standardised across regional or national education

systems and are comprised of multiple core subjects. Movement between tracks is difficult. The Swedish and Norwegian education systems contain Type 2 curricular differentiation. Rather than choosing a type of upper secondary school as in Finland, students attend just one type of “high school” but choose a course of study within it. Type 2 is not common in the United States (LeTendre et al., 2003) or most other English-speaking countries.

Type 3 comprises steams, paths or tracks within a given school. These tracks consist of multiple curricular subjects, but are differentiated from each other by rigor rather than broad disciplinary area, as in Type 2. Type 3 tracks frequently range across multiple year levels. An example would be a high school that offers a university preparatory track for the highest academic performers, and a general track for everyone else. Type 3 is very common in the United States (LeTendre et al., 2003).

Type 4 comprises ability grouping, which is similar to Type 3 but is less systematic and narrower in scope. Rather than spanning multiple subjects and year levels, it is typically restricted to individual subjects and year levels. Typically there are one or more tracks for each core subject area, with each track providing different levels of extension or rigor. For example, a school could offer three tracks (advanced, general, and foundation) for mathematics in Year 9. In primary schools, it typically occurs within classrooms. For example, a teacher might divide her Year 2 students into four groups for reading or math. LeTendre et al. (2003) found that it is ubiquitous in the United States but rare in Germany and Japan. It is very common in primary schools in English speaking countries but rare in European or Asian classrooms, where whole-class, undifferentiated teaching is more common in primary schools.

Type 5 comprises curricular differentiation that occurs across different geographic regions. In essence, it is unsystematic differentiation that happens between schools of the same type due to differences in the socioeconomic composition and funding base of the school. LeTendre et al. (2003) found that this form of curricular differentiation occurred in all three countries but most especially in the United States.

2 The Australian educational context

While education systems across the globe are very similar in terms of taught curriculum areas and institutional structures (Grubb, 1985; Ramirez & Meyer, 2002), they often vary substantially when examined in more detail. This is not surprising since education systems are highly complex social institutions. The structural and organisational features of education systems can have a large impact on student opportunities and experiences. The nature and quality of these features, however, are often not clearly understood by onlookers. Detailed depictions of education systems are also typically lacking in the research literature. We therefore describe the Australian education system in fine-grained detail so that the processes of curricular differentiation and stratification can be understood. We also present a summary of this fine-grained detail in Table 2 below.

32 Table 2 Summary of the Australian education system

Structure and duration	
Total duration of primary and secondary schooling	Years P, 1–12 (13 years); P stands for “preparatory” and is one year of mandatory pre-primary schooling, provided at primary school
• Duration of primary schools	Years P, 1–6 or Years P, 1–7 (7 or 8 years)
• Duration of secondary schools	Years 7–12 or Years 8–12 (5 or 6 years)
• Duration of lower secondary	Years 7/8–10 (3–4 years)
• Duration of upper secondary	Years 11–12 (2 years)
School starting age (Year 1)	6 or 7 years of age
Curriculum structure	
Year P, 1–10	Comprehensive
Year 11–12	Differentiated within schools
Governance: curriculum and assessment	
Federal government: The Australian Curriculum, Assessment and Reporting Authority	<ul style="list-style-type: none"> • Creates national curriculum standards • Administers national standardised testing regime (NAPLAN) in Years 3, 5, 7 and 9 • Reports average school achievement scores and other school information on publicly available website (MySchool)
State curriculum and assessment authorities	<ul style="list-style-type: none"> • Develops subject specific courses of study • Creates and administers external assessments in upper secondary • Grants school leaving certificates
Governance: funding and policy	
Federal government: Australian Government, Department of Education and Training	<ul style="list-style-type: none"> • Sets policy and guidelines for all levels of schooling and education • Provides funding to private schools • Provides targeted funding for public school initiatives
State government: Departments of Education	<ul style="list-style-type: none"> • Oversees, manages and funds public schools
State government: Departments of Education Services	<ul style="list-style-type: none"> • Sets policy and provides oversight for all sectors and levels of education, from early childhood to university
School leaving certificates	
<ul style="list-style-type: none"> • Issued by state authorities • Graduation requirements vary by state and territory and certificate. In most states, school leaving certificates are based on externally assessed, subject specific exams in Year 12, or completion of a vocational certificate 	
University admission	
<ul style="list-style-type: none"> • Based on Australian Tertiary Admission Rank (ATAR) • ATAR is based on subject scores achieved as part of senior school certificates 	

Private school sector enrolment rates; % of students in Australia that attend a private school (as of 2016)

- All students: 35%
 - Primary students: 30%
 - Secondary students: 41%
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School funding

Public schools: funded by state authorities, with supplemental voluntary fees paid by parents; public schools receive targeted funding from federal government for specific purposes, and small general needs-assessed allocations

Private schools: funded by private fees, other private sources, and the federal and state and territory governments

School admissions

Public schools

- Most public schools have a catchment zone
- Some schools are selective entry, recruiting students on the basis of academic tests or demand for specialist subjects
- Theoretically possible to apply for admission to any public school but restricted by availability of places within a given school
- A small but growing number of schools do not have catchment zones and instead use academically selective processes to admit students

Private schools

- Based on ability to pay fees
 - Faith-based schools may restrict admission based on faith
 - Rarely based on academic selection
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Australia has a comprehensive education system that comprises primary and secondary schools. Schooling is compulsory for 11–13 years, depending on state and territory. Primary schools typically comprise the first seven or eight years of schooling, and secondary schools comprise six or five years of schooling. One or two years of pre-primary education is attached to primary schools, with the final year of pre-primary being compulsory, but additional to the 12 years of primary and secondary schooling. Most children start Preparatory year when they are five or six years old. Secondary schools are typically divided into lower and upper (senior) secondary, with lower secondary comprising Years 7–10 and upper secondary comprising Years 11–12.

Schooling in Australia is overseen, managed and funded by both state and federal authorities. States play the largest role, but the role of the federal government is increasing. The federal government's role relates to development of national curriculum standards, assessment and reporting of numeracy and literary standards, and provision of supplemental funding (primarily to private schools). Individual states are responsible for funding and managing public schools. They are also responsible for developing courses of study that integrate the national curriculum standards. Each state has a department of education that oversees public schooling, and a curriculum and assessment authority that develops courses of study and assesses student

34 achievement for all schools in the state, both private and public. States also have a department or ministry of education services that coordinates all educational activities in the state, as well as a cabinet level Minister for Education.

The main federal authority that regulates schooling is the Australian Curriculum, Assessment and Reporting Authority (ACARA). ACARA is responsible for developing the national curriculum standards, administering a national standardised assessment test, and reporting information about schools online. The national standardised assessment test – National Assessment Program – Literacy and Numeracy (NAPLAN) – is administered to all students in Years 3, 5, 7 and 9. Individual student results are reported to schools and parents, and school aggregate results are publicly reported on the federal government’s MySchool website (myschool.edu.au).

2.1 Curriculum policy

The national curriculum is a framework agreed to by Australian governments (state and federal) that sets expectations and standards for eight learning areas in P–10 and four learning areas for Years 11–12. The eight learning areas for P–10 are English, Mathematics, Science, Health and Physical Education, Humanities and Social Sciences, The Arts, Technologies and Languages (ACARA, 2016). The latter four learning areas include multiple subjects; for example, the Humanities and Social Sciences learning area includes four subjects (civics, geography, history, and economics/business). The upper secondary curriculum framework includes four learning areas: English, Mathematics, Science, and Humanities and Social Sciences. Broad content and achievement standards are detailed for each learning area and for each year (sometimes collapsed across bands of years). These descriptions are fairly brief and broad, typically around 600–1300 words for each year level, and are available to the public online (<http://www.australiancurriculum.edu.au/Curriculum/Overview>).

The learning areas from the national curriculum are then developed into more detailed courses of study and/or syllabi by state curriculum authorities for each year level. For the Years P–10, there is typically just one course of study or syllabi per learning area. Upper secondary education (Year 11 and Year 12) is not covered by the national curriculum. It is set and administered by individual states and territories. The upper secondary curriculum is often broad containing many choices to accommodate diversity, ranging from academically demanding subjects such as Physics to less academically demanding subjects such as General Science. For example, in New South Wales, the science learning area is comprised of five courses of study (Biology, Chemistry, Earth and Environmental Science, Physics, and Senior Science, an integrated, interdisciplinary approach for developing science literacy without further post-secondary study in the sciences) (BOSTES, 2016). In Western Australia, by contrast, the science learning area includes an additional five courses (for a total of 10 courses): Aviation, Human Biology, Marine and Maritime Sciences, Plant Production Systems, and Psychology (SCASA, 2016). The number of courses of study for Years 11–12 varies by state but is typically at least 40 or 50 specific courses.

Differentiation by rigor within each learning area or course of study varies by year level and by state. For Years P–10, courses of study and syllabi are designed in a comprehensive manner for primary and lower secondary, i.e. there is just one syllabus per learning area or course of study per year group. For upper secondary (Year 11 and Year 12), however, some state authorities create syllabuses at different levels of difficulty for each learning area. In other states, courses of study (other than English and math) are not differentiated.

As can be surmised from the previous description, the curriculum structure is streamlined and comprehensive for Years P–10 but numerous, diverse and differentiated for Years 11–12. For Years P–10, there is typically one syllabus per learning area or subject per year, and all schools in the state use this syllabus to guide their teaching and learning. For Years 11–12, however, the range of courses of study on offer is more than any one school could possibly provide. Thus, schools are able to choose which courses of study they offer students. These decisions are based on student preferences, enrolment sizes, parent expectations, and school aims for market positioning (Perry, Lubienski, & Ladwig, 2015). The selection of curricular offerings is further complicated by the number of levels that are offered for each course of study. With a minimum of two levels for each course of study, there are typically a minimum of 80 courses of study to select from.

Vocational courses of study are also offered in some schools. State curriculum and accreditation authorities adopt and accredit courses that were initially developed as part of industry training packages and accredited at levels of study (certificate I, II, III or IV, diplomas) consistent with the Australian Qualifications Framework (AQF). The AQF is a national policy framework that regulates and standardises vocational qualifications as well as post-secondary academic degrees. Vocational qualifications are nationally standardised and each industry area has up to four certificate levels (Certificate I being the lowest and Certificate IV being the highest). The vocational courses of study that are offered in secondary schools typically involve some workplace learning and lead to a nationally recognised certificate, typically no higher than Certificate III. Students gaining or studying vocational education courses at a given Certificate level can continue to study for a higher certificate in a post-secondary vocational education institution. The number of vocational education courses of study that are offered in secondary schools varies by state. In Western Australia, for example, vocational courses of study have been developed for ten industry areas (automotive, business and financial services, community services and health, construction industries, creative industries, engineering, hospitality and tourism, and information and communications technology). In addition to these school-based VET offerings, students may also study a VET qualification at either a public or private registered training organisation. Public training organisations are similar to community colleges in the United States or polytechnics in some European countries.

State authorities develop school leaving certificates. Both vocational and academic courses of study can be used to earn the school leaving certificate. In some states, students who are studying vocational courses of study would also typical-

36 ly study some academic subjects as well. The school leaving certificate provides a pathway for further study at either a university or vocational/technical institution. Approximately 26% of Australian students by age 19 do not complete their schooling and therefore do not earn a school leaving certificate (Lamb, Jackson, Walstab, & Huo, 2015). Non-completion rates are particularly high for students from lower socioeconomic backgrounds; 60% of low SES students complete secondary school, compared to 90% of high SES students (Lamb et al., 2015).

Universities admit students to undergraduate programs based on their Australian Tertiary Admission Rank (ATAR), though also through direct access without ATAR. The ATAR is a national system for ranking students and is based on performance in four to six courses of study. Students who want to pursue university study through obtaining an ATAR, generally attain study scores (derived from school-based and examination assessments) in relevant subject areas, the mix of which varies by state and territory. The study scores are then translated into a rank based on calibrated scaling, with advanced mathematics, foreign languages, chemistry and physics typically receiving a stronger weighting.

2.2 Organizational features of the education system

The Australian school system is comprised of public and private schools. Public schools are managed and organized by state public education authorities. Private schools are either 'systemic' meaning that they form part of a system managed and organised by specific authorities (such as the Catholic Church), or are 'non-systemic' meaning that each school operates largely independently usually under the aegis of a governing board or school council. Most Catholic schools are systemic and organised, managed and funded by the Catholic Education Office in each state, but some Catholic schools are independent. Most other private schools are non-systemic; some of these non-systemic schools are associated with a Protestant faith or are non-denominational, while a small number are associated with other faiths (e.g., Islam, Judaism).

Australia has one of the largest private school sectors among economically developed countries. Slightly more than 30% of all students attend a private primary school (ABS, 2016), and this number rises to 41% among secondary students; overall, approximately 35% of students attend a private primary or secondary school (ABS, 2016). Among the member countries of the Organization for Economic Cooperation and Development (OECD), only Belgium, the Netherlands and Chile have a greater proportion of students enrolled in a private school. Private schooling is more widespread among secondary students possibly in part because of the widespread perception that it is more effective at preparing students for the ATAR, a perception that is reinforced by the publication of school ATAR scores in the popular media.

School sector is patterned by socioeconomic status in Australia. This is not surprising given the widespread perception among many (but certainly not all)

parents is more successful in accessing university places for its students. Schools with largest intake of students from the highest socioeconomic backgrounds tend to be private, and schools with largest intake of students from the lowest socioeconomic backgrounds tend to be public (Ryan & Watson, 2004; Watson & Ryan, 2010). For example, in Perth, the capital city of Western Australia, public schools comprise 96% of secondary schools in the lowest socioeconomic quintile but only 13% of schools in the top socioeconomic quintile (Perry & Southwell, 2014). Historically, most professionals and business and political elites in Australia have chosen private schools for their children's education (Anderson, 1992; Higley, Deacon, & Smart, 1979), a trend that has not abated. Since the 1970s, the proportion of students from middle-class families who attend a private school has also grown (Teese, 2011). Even in working-class communities, private schools tend to have a middle-class socioeconomic composition. As described by Teese (2011, p. 7), "in low SES communities, public schools over-enrol low SES students and private schools over-enrol higher SES students". In fact, very few low SES private schools actually exist (Teese, 2011). Data from the Programme for International Student Assessment (PISA) verify this claim. In the 2009 Australian dataset of 353 schools, for example, only two of 70 schools in the bottom school SES quintile and 5 of 71 schools in the second bottom school SES quintile are private (Perry, Lubienski, & Ladwig, 2016).

Public schools receive most of their funding from state departments of education. They are typically funded on a per-pupil basis, using formulas that provide base, per capita and equity loadings. This means that while there are some variations by state and territory, generally, public schools receive similar amounts of public funding based on student enrolments and location (rural or urban), with some schools that enrol a larger number of high-need students receiving additional funding.

Non-systemic private schools receive most of their funding from private sources, namely fees and charges that are paid by the families of enrolled students. Fees can range from a low of \$2,000 AUD (approx. 1,250 Euro and \$1,425 USD) for a Catholic primary school in a working-class, outer suburb of a capital city, to a high of \$25,000 (15,700 Euro and \$17,750 USD) for a socially elite private school in central location. In addition, private schools in Australia receive public subsidies from federal and state governments as well. The amount of funding varies by school but all private schools receive something, even private schools that charge very high fees. For example, data from the MySchool website show that one prestigious private Anglican school in an inner city community of capital city received approximately \$23,200 AUD per pupil in fees and received approximately \$2,600 per student from federal funds and \$2,100 per student in state funds; this equates to approximately 9% of their gross per-pupil funding comes from federal funds, 7% from state funds, with the remaining 84% from private funds (primarily fees). By contrast, a Catholic secondary school in an outer suburb of a capital city, received approximately \$4,150 AUD per pupil in fees, \$6,950 from federal funds, and \$3,250 from state funds, representing 47% from federal funds, 22% from state funds, and 28% from private sources. These amounts of public funding represent 80–90% of the national government school re-

38 source standard. Some private schools can receive more funds from public sources than equivalent public schools located in the same areas. Rather than using these public funds to make their schools more accessible to lower-income families, private schools have tended to use public subsidies to improve their facilities and resources (Ryan & Watson, 2004; Watson & Ryan, 2010).

Opportunities exist families to select a school of their choice. Private schools are often a sought after choice among middle class parents. Demand is high and for a long time enrolment drift from public to private has been a trend as aspirational families work to position their children for future educational and career opportunities. School choice also exists within the public sector. All students are guaranteed a place at their local public primary and secondary school. Students may apply for admission to any public school in the state, however. Schools that are under-enrolled often admit students who reside outside the school's catchment area. While securing a spot at a non-local public school is fairly common, it is more difficult with secondary schools, especially those that have high rankings on the league tables of ATAR scores and graduation rates that are routinely reported in local media.

In an effort to compete with private schools for academically strong students, public schools and public education systems are increasingly using selective admissions to enrol gifted and talented students who reside outside the catchment zone. These selective admissions are typically for academic, artistic or sporting talent and are very competitive. At one sought-after Perth public high school, for example, over 200 students competed for 32 spots in the school's visual arts program in (Applecross Senior High School, 2016). Selective entry to public schools is especially common in New South Wales, where it is used to admit all students in 17 high schools and a subset of students in another 25 schools (Department of Education and Training, 2013). In Victoria, five schools enrol their whole intake through selective entry, while most secondary schools now enrol annually a proportion of their intake as academically selected students. In Western Australia, there is just one public school that admits all students through an academically selective entry process, but other schools have selective admissions processes for a smaller number of students. Data from PISA show that approximately 25% of students in Australia attend a high school where a student's academic record is always considered for admission (OECD, 2010a). Selective entry is not common in the private sector, although the high fees at many of these schools make them financially selective.

The Australian education system is characterised by high levels of choice and competition. The majority of high school students do not attend their local public high school. As already mentioned, 41% of secondary students attend a private school (ABS, 2016). Further insight about the extent of choice and competition in the Australian education system can be gleaned from the nationally representative PISA dataset. Only 29% of students attended a high school that requires residence in a particular area, and 88% of students attended a high school that competes with two or more other schools for students (OECD, 2010a, 2010b).

3 Curricular differentiation and stratification in Australia

Curricular differentiation and stratification have not been studied extensively in Australia (Council of Australian Governments, 2008; Fenwick, 2012). The fact that they have not been a topic of much research interest suggests that they are not seen as a major problem or challenge. Rather, it is likely that the processes, forms and outcomes of curricular differentiation and stratification that are common in Australia are seen as normal and natural by both the lay public as well as educational researchers. We will develop this line of thought later in the paper. In this section, we describe how curricular differentiation and can occur both within and between schools, using the typology developed by LeTendre and colleagues.

3.1 School type (Type 1)

Similar to other comprehensive education systems, this type of formal and overt differentiation of curriculum by school type is rare in Australia. Unlike some European countries, most secondary schools in Australia are comprehensive in that they all offer the same school certificate programs.

3.2 Course of study (Type 2)

Curricular differentiation that is structured by course of study occurs in the last two years of secondary school (Years 11 and 12). As conceptualised by LeTendre and colleagues, this form of curricular differentiation “involves the provision of more than one formal path that students may follow within a given school or school type... [and comprises] a distinct core of academic classes”. In Years 7–10 it is common for secondary school students to study a selection of subjects from a range of key learning areas, including English, mathematics and science, along with a range of other subjects. In Years 11 and 12, however, students choose a course of study, either academic or vocational. Details about these courses of study vary by state. In Victoria, for example, students can choose the Victorian Certificate of Education (VCE), which is comprised of academic subjects and provides pathways to further study or direct entry to the workforce, or the Victorian Certificate of Applied Learning (VCAL), which is comprised vocational subjects and some general skill subjects. Most students choose VCE (VCAA, 2016). In Western Australia, there is just one school leaving certificate, but there are two main pathways to achieving it. The first pathway is comprised of mainly ATAR-level academic subjects and leads to an ATAR score that can be used to apply for admission to a university. The second pathway includes a vocational certificate plus core academic subjects (numeracy, literacy), some or all of which can be at a lower level of rigor.

3.3 Stream (Type 3)

Streaming or tracking occurs in some Australian high schools. It is most likely to occur in lower secondary, i.e. Years 7–10, and before the Type 2 curricular differentiation that occurs in Years 11–12. It is rare in primary schools. Typically it involves an academic extension track, and then a general track for all other students. Students are selected into the program based on previous academic performance and perhaps with the use of an aptitude test. Less commonly, schools may also have selective tracks for the visual and/or performing arts, or even less commonly, for a particular sport. For sport streams, a school would typically have a specialist and selective program for just one sport. As described earlier, some public schools use selective academic, art or sport programs for enrolling talented students who reside outside the school's catchment zone. Students who are admitted to a school based on their acceptance to a selective program are expected to participate in the program for the duration of their stay at the high school. In some instances, out-of-area students can lose their place at the school if they leave the specialist program.

3.4 Ability grouping (Type 4)

Ability grouping can occur within classrooms or between classrooms in the same grade. The degree to which it is practiced in primary schools in Australia is not well understood and has not been the subject of much (if any) research interest. Nevertheless, ability grouping within classrooms is common, especially in the core subjects of literacy and numeracy (Council of Australian Governments, 2008), but certainly not ubiquitous. Anecdotally, it appears that whether it is practiced or not in primary schools varies by teacher. If it is practiced, it occurs within classrooms, not between them.

Ability grouping is widespread in lower secondary schools (Years 7–10) in Australia, especially in math (Zevenbergen, 2005). It is often practiced between classrooms. In some schools students can be grouped by aptitude into separate classrooms for selected subjects (such as math, English and science), but approaches vary across schools. One approach is to create one or possibly two extension classrooms for each subject and year group, with the majority of students placed in general/mixed-ability classrooms. Another approach is to create multiple ability grouped classrooms for each subject and year; for example, there could be three or four levels of math for each year. In both approaches, placements are usually fluid, with some students moving into and out of ability grouped classrooms depending on their performance in the given subject. A student may be placed in one or more of these extension classes, but the majority of students would not be placed in any. As is obvious from our description, there is no single way in which ability grouping in lower secondary schools is practiced. Based on our lived experience working with schools and state systems, we posit that the first approach – one extension class for a small group of top-performing students plus general/mixed-ability classrooms for

all other students – is more typical than the multi-level ability grouping approach. This is hypothesis, however, since to the best of our knowledge, no systematic empirical investigation has been conducted in Australia about the extent and nature of ability grouping in lower secondary schools. Lamb and Fullarton (2002) reported that approximately one half of Australian Year 8 math classrooms that participated in the Third International Mathematics and Science Survey (TIMSS) in 1996 were tracked. This figure could reflect a scenario in which all schools have one tracked classroom in mathematics and some schools have more than one. It was also twenty years ago, however.

Before the introduction of the Australian national curriculum began in 2012, some state curriculum authorities created multiple syllabi for English and mathematics to reflect different levels of difficulty for lower secondary, particularly for Year 9 and/or Year 10. For example, in a study of learning opportunities in Tasmania by Lamb and colleagues (2001), students were grouped into three levels for math and for English which were standardised across all schools in the state. Zevenbergen (2005) also reported multiple mathematics tracks in her study of Year 9 and Year 10 students in Queensland. As in Tasmania, these varying tracks were standardised across the state. Standardised ability grouping is no longer recommended practice with the introduction of the national curriculum. This may be a positive move since both Zevenbergen (2005) and Lamb et al. (2001) found that it was associated with unequal learning opportunities for students from lower socioeconomic backgrounds. Similar to studies from other national contexts, they found that students from lower SES backgrounds were over-represented in the lowest track and under-represented in the highest track.

Finally, grouping occurs in many subjects in Years 11 and 12, informally in many instances through the actions of teacher advice and recommendations and formally through school rules on subject entry and enrolment. This form of grouping is not necessarily prescribed by curriculum authorities, but promoted through guidelines and the actions of schools. The curriculum in Years 11 and 12 in most states and territories is differentiated in that some subjects and courses are academic preparatory leading to university and some are not. Consistent with the international literature, lower SES students tend to be over-represented in the lowest tracks and under-represented in the highest tracks (Fenwick, 2012; Teese, 2007).

3.5 Geographic (Type 5)

The final type of curriculum differentiation in LeTendre et al.'s typology comprises differences that occur between schools based on their geographic location, size, socioeconomic composition, sector or funding base. This form of curricular differentiation is unintended, which makes it different from between-school curricular differentiation based on school type (Type 1).

Curricular differentiation between primary schools is rare, at least in the subjects prescribed in the Australian national curriculum. It could occur in other subjects,

42 such as foreign languages. The national curriculum includes languages other than English, but it is not clear that all primary schools are required to offer one or more foreign languages. Rather, it is up to the state curriculum authorities to decide. Schools in Victoria are urged to offer one or more foreign languages (Victoria State Government Education and Training, 2016). In Western Australia, for example, the curriculum authority is requiring primary schools to offer one or more foreign languages from 2018. Anecdotally, we know that some primary schools do not offer foreign language(s). It is likely that larger and/or well-resourced primary schools are better placed to offer one or more foreign languages compared to other schools. As with ability grouping, however, the nature and extent of curricular differentiation in foreign languages between primary schools has not been studied in Australia.

Curricular differentiation between secondary schools is substantial. This is especially the case for Years 11 and 12, when the courses of study become more specialised and numerous. As discussed earlier, the number of Year 11 and 12 courses developed by each state's curriculum authority can be large. It is difficult for many schools to offer the full range of subjects, because of small school size, or lack of facilities and resources, as well as low demand. Schools decide which courses they offer, and they typically base their decision on student demand, the school's perception of appropriate pathways for its students, and the school budget and staffing resources (Perry et al., 2015). Subjects are generally not mandatory, and therefore schools are not required to offer specific subjects, though English is a compulsory subject in most states and territories. While not compulsory in most states and territories, mathematics is taken by many students. Some schools, under the weight of low demand, do not offer the most advanced options in maths. Enrolments in ATAR subjects can vary by school. The evidence for between-school differentiation is largely anecdotal, but research by Perry and Southwell (2014) has uncovered very large inequalities in the number of advanced (ATAR) level subjects offered by schools in one Australian, the capital city. They examined curricular offerings in Year 12 at all Perth metropolitan schools ($n = 121$ schools) and found the number of ATAR subjects offered is strongly related to the size, sector and socioeconomic composition of the school. Only 10% of schools in the lowest socioeconomic quintile offered ATAR-level English literature, chemistry, physics and calculus, compared to nearly 100% of schools in the highest socioeconomic quintile. Research by the federal government (Human Rights and Equal Opportunity Commission, 2000) also found large differences in the number of academic courses on offer between metropolitan and rural schools.

4 Discussion

Curricular differentiation occurs in both primary and secondary schools in Australia, mainly in the form of ability grouping. Differentiation in primary schools is not extensive and it is likely to be less than in the United States and possibly less than in

other comprehensive education systems as well. Differentiation in lower secondary (Years 7–10) is common, but in most instances appears to be implemented in a way to provide opportunities for extension for highly capable and motivated students. Academic selection can occur at this level, with a proportion of students chosen through success on aptitude tests and grouped together for their classes. Generally, though, the majority of students at this level are grouped in mixed-ability classes. It appears that the forms of rigid ability grouping that Gamoran (2000) and Hallinan (2000) caution against are not common in Australian schools, but further research is needed to test this claim.

Curricular differentiation is more problematic in the final two years of secondary schooling. Subject choice, school rules around subject selection, and the actions of teacher and family recommendations work to stratify enrolments across subjects. Research by Teese and colleagues (2007; Teese & Polesel, 2003), Lamb et al. (2001; 2015) and Fenwick (2012) has clearly shown that students from lower SES backgrounds are less likely to study the most advanced subject offerings. While it is normal that individual students differ in terms of their capabilities, interests and motivation, consistent differences between groups of students are a concern because they suggest that structural forces are reproducing educational inequalities (Portes, 2005). Research by Gordon and Nicholas (2013) has confirmed anecdotal evidence that some students are counselled by teachers and curricular leaders to not take advanced academic subjects such as calculus for fear of depressing the school's average ATAR scores. As described earlier, school academic performance on a variety of measures, including ATAR scores, is regularly reported in the popular media in the form of league tables. With the high level of choice and competition in the Australian education system, it is tempting for schools to engage in practices that present their school in a favourable light even if harmful to individual students.

The most problematic form of curricular differentiation in Australia appears to be the incidental form that occurs between schools based on their location or socioeconomic composition. While the empirical evidence is emerging, it appears that there are very large inequalities in access to advanced academic curricula between schools of different socioeconomic compositions for the final two years of secondary schooling. These two years play an important role in determining students' opportunities for further study at university. Opportunities to study advanced academic curricula at low SES public schools are very limited. For students whose local public school does not offer a solid range of advanced academic curricula, options include paying fees to attend a private school, or trying to gain access to a different public school. In rural areas, there might not even be a public school nearby that provides a decent range of advanced academic curricula. Because of these inequities, we argue that Type 5 curricular differentiation in Australia is actually curricular stratification.

The Australian case raises questions about the underlying reasons behind incidental curricular stratification between schools. Certainly it occurs in other comprehensive education systems, especially the United States (LeTendre et al., 2003). Lower SES schools often have fewer advanced academic curricular offerings and

44 more vocational and/or remedial offerings compared to other schools (Anyon, 1981; Rumberger & Palardy, 2005; Rumberger & Thomas, 2000). More recently, Klugman (2013) and Barnard-Brak, McGaha-Gamett and Burley (2011) have shown that lower SES schools typically offer fewer Advanced Placement courses (a standardised, externally assessed program that can lead to advanced standing in university) than higher SES schools. While between-school inequalities in the United States are significant, we argue that they are of a magnitude lower than the between-school inequalities in Australia. Regardless of whether a high school in the United States offers an AP course in any given subject or not, it would be uncommon for a high school to not offer physics or calculus or English literature, for example. And yet these subjects are not offered in all Australian high schools, and certainly not in many low SES schools.

The Australian education system appears to be a strange hybrid. It is not fully academically divided like the selective systems of Europe, but the degree of incidental between-school curricular stratification calls into question the degree to which it is comprehensive. Rather, it is increasingly becoming a financially selective system, where money buys access to rigorous, high quality academic curriculum. While cultural values and historical legacies likely play a role, it is also likely that high levels of school autonomy, accountability, decentralization, competition and choice have exacerbated inequalities related to curricular stratification via increased social segregation between schools. These marketization policies in turn interact with standardised and formal courses of study in upper secondary school. As the main pathway for allocating opportunities for further study, these courses of study are a high-stakes enterprise. They are also a form of educational currency: created by state curriculum authorities, recognised by all stakeholders, exploited by schools to create a market advantage, and consumed by families as a mechanism for securing educational advantage.

5 Conclusion

Our aim in this paper has been to contribute to the development a cross-national, comparative framework about curricular differentiation and stratification. Much of the literature about curricular differentiation and stratification comes from the United States. Understanding how it occurs in other national contexts can deepen our theoretical understanding of the structures, policies and values that mediate these processes. We hope that our analysis of the Australian case will open new lines of research about the structures and policies that underpin curricular differentiation and stratification generally and between-school inequalities in access to academic curricula in particular. Uncovering the reasons why a prosperous, highly developed country such as Australia has large curricular inequalities between schools could deepen insight about the impact of standardised curricular structures in competitive, marketized education systems.

As with any market, regulation is essential for ensuring both efficiency and equity. The Australian case suggests that regulation may be required even in comprehensive education systems that do not have any formal structures for differentially allocating curriculum opportunities between schools. Curriculum structures are highly regulated in Australia, but students' curricular opportunities in upper secondary education, the period that most closely determines pathways for further study, are surprisingly unregulated. Schools are not required to offer any particular curricular subjects, and public education authorities are not required to guarantee students access to them either.

Rather than trust the market to provide equitable access, we recommend developing a regulatory framework that ensures that all students, regardless of where they live or how much money their parents earn, have an opportunity to access high quality academic curricula without having to pay a fee. Similarly, we support the development of high-quality vocational education offerings that are widely available to students. To reduce incidental, between-school curricular stratification, a comprehensive strategy will be needed. This strategy should include regulatory frameworks about access to academic and vocational curricula, as well as careful consideration of the policies and structures that drive between-school curricular stratification.

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