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A Critique of PISA and What Jullien's Plan Might Offer

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Abstract

Adopting a comparative perspective to address educational issues in different contexts was a hallmark of Jullien's work in the early 19th century. Different emphases and approaches to comparative education methodology have emerged in recent times thanks to major developments in technology, but have these changes rendered Jullien's ideas redundant? This paper looks at the current predominant methodology in comparative studies of curriculum by critiquing the instruments of the Programme for International Student Assessment (PISA). Some pitfalls of comparing through a focus on student learning outcomes in defined subjects are discussed. The paper concludes by looking at how Jullien's Plan might offer ways of addressing some of the modern challenges and opportunities facing comparative research methodology in curriculum studies.

Keywords: Curriculum design, comparative education history, assessment

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Introduction

Marc-Antoine Jullien de Paris is regarded as a founder of comparative education in Europe, most notably as a consequence of his determination to create a science of education (Markauskaite, Freebody and Irwin 2010). Born in Paris in 1775, Jullien became active in government affairs after the French Revolution. During his career he published a range of philosophical and educational plans and treatises. In “*Esquisse et vues préliminaires d’un ouvrage sur l’éducation comparée et séries de questions sur l’éducation*” published in 1817, Jullien attempted to identify good educational practices in a number of countries. His contribution to comparative education methods was his Plan, which probed diverse aspects of the education systems under scrutiny, so the answers could be compared with a view to highlighting trends or characteristics that might make one system more effective than another. At the heart of his Plan were hundreds of questions divided into six series covering primary and common education, secondary and classical education, higher and scientific education, normal education, education of girls, and education as it is related to legislation and social institutions respectively. Each series included questions with different areas of foci such as administration, teachers, pupils, physical education and gymnastics, moral and religious education, intellectual education, family education, articulation of secondary education, and general considerations. His Plan represents the first published attempt at systematic comparative education.

Nowadays, 200 years after the publication of Jullien’s work, interest in international and comparative studies of education is undergoing a strong revival. The predominance of competitive

mindsets fostered by neoliberal ideology, aided by performance tables derived from data collected by the Programme for International Student Assessment (PISA), the International Association for the Evaluation of Educational Achievement (IEA), the Trends in International Mathematics and Science Study (TIMSS), and the Programme for the International Assessment of Adult Competencies (PIAAC) and similar studies, have placed comparative studies in the spotlight. Of particular interest to policymakers is the contribution that curricula (with student outcomes as the proxy indicator) can make to economic performance, and international studies are attractive as they are viewed as providing objective and global evidence of the comparative effectiveness of school systems in this respect.

The predictive power ascribed to such studies has led to considerable debate in the academic literature and policy domains regarding their reliability and validity. Some of the claims and criticisms are set out in this paper. Concerns have led to a search for alternative approaches. We argue that there is value in looking at Jullien's Plan to consider how it compares to the PISA study (to take the most influential of the current raft of comparative studies) and how it might also offer insights into curricular matters that are not currently provided by PISA. Using the Plan as a reference point is not intended to bestow a definitive status of excellence on it; rather, our intention is to mark the anniversary of Jullien's work by revisiting it to discern relevance for modern trends in comparative education, while acknowledging the challenges and pitfalls of deploying a Plan designed for another era.

The paper is focused on comparative studies that have the curriculum as the unit of analysis. 'Curriculum' is a notoriously slippery term. It can be used to refer to a wide range of aspects,

including the ideology and aims of education, the content to be covered, processes of learning and teaching, learning outcomes, assessment, and learners' formal and informal learning experiences (Marsh and Willis 1995; Morris and Adamson 2010). It can be divided into the planned or intended curriculum, which is typically set out in documents such as policy statements, syllabi, and schemes of work, and the implemented curriculum, which relates to the actions of schools, teachers, students and other agents in the delivery of learning experiences. Theorists (e.g. Marsh and Willis 1995) also refer to the “null” curriculum—that which is omitted, wittingly or unwittingly, from those learning experiences—and to the “hidden” curriculum, the covert transmission of values (again, either intentional or unintentional) through power relationships and other forms of social dynamics. Another distinction that is found in the literature is between the “formal” curriculum, which comprises activities that are scheduled in the subject timetable, and the “informal” curriculum, which consists of events, such as trips, visiting speakers, clubs and other out-of-classroom activities. For the purposes of this paper, we consider “curriculum” as referring to the provision of learning experiences within formal educational settings. These experiences result in student learning outcomes, which are analysed in PISA in terms of contributory factors. A major concern of Jullien, as evidenced by the nature of the questions asked in his Plan, was also the factors that bring about effective learning. However, the two approaches are different. Our comparison of the Plan and PISA looks at the ideology underpinning the conception of curriculum in each, the nature and range of curricular components encompassed by the two forms of inquiry instruments, and the metrics used to evaluate the quality of the curriculum under examination.

PISA: purpose and orientation

There are a number of ideological orientations that influence the nature and contents of curricula. These include academic rationalism, social and economic efficiency (a form of human capital theory), social reconstructivism, individualism, orthodoxy and global futures (Morris and Adamson 2010). Academic rationalism is concerned with the intellectual development of students and focuses on the transmission of knowledge, skills and attitudes derived from established subject disciplines. Social and economic efficiency gives schools the task of preparing students to contribute to society as part of the workforce and as responsible citizens. Social reconstructivism views schools as an arena for changing society. According to this orientation, education is directed towards empowering students to address societal issues or problems such as drug abuse, gender inequality or climate change. Individualism promotes a more student-centred curriculum, one that is flexible and can be tailored to suit the needs, interests and abilities of each person and helps them to realise their potential in different aspects. Orthodoxy is concerned with inculcating a particular set of political or religious beliefs. Global futures envisages a skills-based curriculum that provides students with transversal or “soft” skills required in a rapidly changing society. Most school curricula contain elements from all or nearly all of these orientations, but usually a dominant theme can be discerned.

As noted above, large scale international student assessments are a proxy for evaluating the quality of the curriculum provided by systems of schooling. Their origins can be traced to the competitive context of the Cold War and the founding of what became the International Association for the Evaluation of Educational Achievement (IEA) by Torsten Husén and his colleagues, who in 1960 conducted the first pilot assessment involving 13-year-olds in 12 countries, in mathematics, reading comprehension, geography, science, and non-verbal ability. The IEA expanded its

comparative tests to include the periodic Trends in International Mathematics and Science Study (TIMSS), Progress in International Reading Literacy Study (PIRLS), the International Computer and Information Literacy Study and International Civic and Citizenship Education Study, among others. The scale of the studies has increased from the original 12 countries to more than 60 countries and systems participating in TIMSS 2011 and more than 45 in PIRLS 2011 (IEA 2013a and b). The IEA studies measure what students have mastered in the curriculum, in contrast to PISA which focuses on how well prepared students are to use their knowledge and skills, although in reality the purposes are hard to distinguish (Leung 2014).

The OECD launched the PISA study in 2000, to be conducted in three-year cycles and measuring performance in mathematics, science and reading literacy as well as problem solving. By 2012 it involved the testing of 15-year-olds in 65 OECD countries and partner economies. Representative samples of students aged between 15 years and three months and 16 years and two months take the tests and, along with principals and parents, complete a background questionnaire. The tests are ‘designed to assess to what extent students at the end of compulsory education can apply their knowledge to real-life situations and be equipped for full participation in society’. The domains tested, it claims, are ‘crucial to a country’s development’ in a competitive, knowledge-based economy (OECD 2013). The OECD, like IEA, works with a large network of local investigators, usually academics in the participating countries or cities, to gather and analyse data at multiple levels, not only gathering raw scores, but using the background questionnaires for analysis of multiple variations in performance, such as those related to family background, gender, instruction,

curriculum, attendance, resources and school administration (Ho 2014; Leung 2014). This demonstrates that PISA is underpinned by the ideology of social and economic efficiency.

Sellar and Lingard (2013, 186) describe how the OECD has expanded its role in global educational governance, through the ‘*scope, scale and explanatory power* of its research’. For Woodward (2009, 187), it is now the ‘premier supplier of educational statistics and sculptor of education policy agendas worldwide’, not only responsible for PISA, but the *Indicators in Education Systems* (INES), *Education at a Glance*, and the development and ratification of key policies around lifelong learning. Its influence is indicated by the fact that participation has extended well beyond OECD countries originally involved, from 43 countries in 2000 to 71 countries and economies in 2015. The PISA study may have the greatest international profile and influence ‘as the main engine in the global accountability juggernaut’ (Meyer and Benavot 2013, 10), compared with the IEA studies, due to its link to the OECD, a politically powerful transnational advocacy network (Perry and Tor 2009). In an OECD-commissioned study of the impact on policymaking, Breakspear (2012, 27) found from participants’ survey responses that it has been used as a ‘valid and reliable instrument’ for benchmarking system performance against the high performers, while some had embedded PISA frameworks in their own assessment, evaluation and curricula frameworks – examples of international policy transfer. Hong Kong used it to track the outcomes of its reforms (Breakspear 2012).

The OECD and IEA studies have thus given policymakers, planners and comparative researchers powerful tools for comparison and lesson drawing from the new ‘reference societies’ they create (Perry and Tor 2009; Sellar and Lingard 2013; Steiner-Khamsi 2010; Crossley 2014; Trohler

2015). Andreas Schleicher, the OECD's director for education and skills who has overseen the PISA study since its inception, frequently argues that 'without data, you are just another person with an opinion', and that without international assessments it would not be possible for policymakers to identify their systems' strengths and weaknesses, or identify systems with high or improving performance they could learn from (Schleicher 2007, 2009). As Meyer and Benavot (2013, 10) reflect, PISA has 'raised hopes that its reports and research will advance knowledge of what works in education, based on truly international and comparable databases'.

Educational economists and proponents of human capital theory highlight the importance of PISA for improving educational outcomes. Hanushek and Woessmann (2010) used modelling based on past economic growth among participating systems to suggest modest improvements in test scores across OECD countries could be worth trillions of dollars over the lifetime of children born in 2010 (6). As such, PISA can benefit the wellbeing of populations, and promote social justice by identifying inequalities between and within nations. Sahlberg and Hargreaves (*Washington Post*, March 24, 2015) concur that PISA has done 'many good things for students, schools and societies', despite their reservations about the methodological limitations in the ranking exercise. For example, without it, a number of developed countries would have continued to mistakenly believe their education systems were the best in the world and should set the direction for others. The 'rough information' on trends in performance can be useful for charting the impact of curriculum reforms and identifying strengths and weaknesses in different strands of learning (Leung 2014, 603).

Other comparative educationalists have noted some benefits in the PISA exercise. For example, Bray and Kobakhidze (2014, 593) argue that technical advances in the study have enabled it to make ‘major conceptual contributions to the academic field of comparative education’. It can be a positive resource for policymakers, if used in context and making cautious use of the full performance data and survey responses, and with the engagement of the academic research community (Crossley 2014; Barrett and Crossley 2015). It can highlight inequities; contribute to shared ideas about the objectives of education, and some solutions that have the potential to be adopted by others (Alexander 2012; Leung 2014; Barrett and Crossley 2015).

Policymakers in countries such as England have tended to emphasise poor performance as part of the crisis rhetoric to condemn the records of previous governments, justify reforms, and the ‘pick n’ mix’ features they already plan to implement (Morris 2012; Rappleye 2012). Carvalho and Costa (2015) argue PISA’s power is reflected in the manner it defines where to look and what to see from the policy agenda it has set, focused on facets such as school autonomy, accountability, privatisation, and school improvement and the good practices in new reference societies such as Finland and Shanghai. However, their analysis of how PISA is used in six European countries suggests that the results are differently interpreted and used in different contexts, rather than resulting in a convergence of policies. In their topological analysis, Thompson and Cook (2015, 745) explain that proliferation of international data such as PISA, may ‘deform’ the education and policy topology at international and local levels, although how it is used is controlled locally:

Global policy convergence is a virtual process in which the local topographical structure reasserts its control by projecting a global observational mesh in which everyone is caught.
(745)

Regardless of the degree of convergence, the scale of competitive comparison is now shaping national policy discourse, expectations and preferences, and having influence on the purposes and desired outcomes of education (Torney-Purta and Amadeo 2013; Crossley 2014; Auld and Morris 2014; Dale 2015). Both OECD and IEA findings and databases are extensively used by policymakers, the media, think tanks and consultancies as a proxy measure for ‘educational quality’ and outcomes and source of the holy grail of ‘what works’, ‘best practice’ and ‘miracle cures’ for failings in performance (Andere 2008; Alexander 2012; Crossley 2014; Auld and Morris 2014; Han 2016). Even individual schools are now encouraged to test themselves against and learn from global high performers in the recently-piloted PISA-based Test for Schools (Rutkowski 2015).

Morris (2015, 471) has argued that the power of PISA comes from its applied pragmatism, and policy orientation, while findings are portrayed by the gatherers and those who use the studies as ‘non ideological, evidence based, objective, global and scientific’. Yet Morris and other critics, such as Moss and Goldstein (2014), Crossley (2014), Kamens (2015) and Lauder (2015) question the assumptions, logic, and reasoning associated with the study. At the technical level, critics question the validity and robustness of the PISA data, and suggest it is not sufficiently interrogated and understood by those who use the statistics, in particular policymakers and the media (Moss and Goldstein 2014). Critics challenge the assumptions that PISA scores provide a reliable indicator of a nation’s stock of human capital and therefore future economic competitiveness; and that the causes of student performance – the outcomes of education - lie primarily within the

educational system and can be isolated and transplanted into different contexts (Crossley 2014, Morris 2015).

PISA: technical issues

The influence and validity of PISA depend on the credibility of its data sets and how they are used in policymaking - its consequential validity (Torney-Purta and Amadeo 2013, Moss and Goldstein 2014). Addressing the methodological issues first, Leung (2014) argues that both PISA and the IEA studies involve technically robust protocols for the collection and analysis of data and appear to produce 'rather reliable' and consistent findings (593). However, researchers have noted that despite the attention paid to improving the validity of the research instruments, there are a number of limitations in such large-scale studies conducted across a wide range of geopolitical, linguistic and cultural settings. For example, issues have been identified that involve inconsistencies in sampling between and within countries, and across time (Jerrim 2011; Leung 2014; Moss and Goldstein 2014). Indeed, the OECD itself advises caution in how results and trends are interpreted (OECD 2010), having excluded several countries, including England, from its analysis of trends in reading performance between 2000 and 2009 because of limitations of their data. Given other changes in the nature of the PISA instrument, the OECD (2010) cautioned that only reading literacy can be compared across all four cycles of the test between 2000 and 2009, with maths from 2003 and science from 2006.

Critics have also questioned the possibility of there being a culturally neutral educational platform in which the same test and survey questions are used in countries whose social, economic, cultural and colonial backgrounds are vastly different (Andere 2008; Meyer and Benavot 2013; Lockheed

and Wagemaker 2013). Frederick Leung, who leads the TIMSS study in Hong Kong, identifies the technical challenges, for example around the different length of schooling experienced by 15-year-olds in different systems, and complexities around language. Value and meaning associated with questions vary across linguistic settings. For example, the question ‘How many sides are there in a heptagon?’ when translated into Chinese will mean something like ‘How many sides are there in a seven-sided polygon?’ (Leung 2014, 589).

Andere (2008) and Moss and Goldstein (2014) argue that the statistics should be treated with caution. The data report, not necessarily explain, while correlation must not be confused with causation. These statistical concerns have implications for how data is treated or mistreated in the public domain, and the need for understanding the context it is derived from (May, Boe and Boruch 2003). Too frequently statistics are misused by those who do not understand or chose to ignore the subtle details, particularly by politicians to justify their decisions, and the media interested in more simple stories that resonate with local agendas (Moss and Goldstein 2014; Auld and Morris 2014).

Another key limitation of large scale international comparison is whether we are really comparing like with like. The league tables most commonly referenced by politicians and the media compare countries as large as the USA and Russia with the ‘economies’ of cities such as Hong Kong and Shanghai. However, for the USA, only three states have participated – Massachusetts, Connecticut and Florida – with markedly different results included in the OECD’s comparison of national and regional level performance. It may be no coincidence that the top three systems were all urban cities. The OECD (2010, 10) has found students in cities tend to perform better than those in rural areas in many countries, including USA and UK. Analysis of Australia’s PISA results by Gorur

and Wu (2015) highlights similar issues. When analysed by state some Australian states are already within the top five PISA performers. They also suggest that the overall national averages are negatively affected by the lower test completion rate among Australians, which they indicate may reflect their lesser motivation to excel in such exercises than their counterparts in jurisdictions such as Taiwan and South Korea where frequent testing is a cultural norm. Because of the methodological limitations involved in large scale assessments, including questions related to their validity, and the impact of such testing on education policies that prioritise what they measure in order to climb the PISA league tables, it has been argued that studies such as PISA need to be supplemented with other forms of research, including the qualitative, and used with great caution by policymakers (Ho and Sum 2013; Crossley 2014; Lockheed and Wagemaker 2013).

Beyond the technical limitations, critics question what PISA measures and the value of high-performing systems as models for others. For example, Alexander (2012) asks whether the narrow focus on maths, science and reading literacy is indeed reflective of desired outcomes of education for the individual student, as well as of the future competitiveness of a society:

We know that Singapore, Hong Kong, Korea, Shanghai-China and Finland do well in PISA tests of student attainment in reading, maths and science. But what else do their students learn, and how well? Do these systems provide their children with an education which is about significantly more than passing tests in three subjects? And if the wider curriculum in top-performing PISA systems were to be measured as assiduously as the reading, maths and science are measured, would the same countries still head the league table? (Alexander 2012, 18)

Academics involved in the PISA study in East Asia have responded with measured realism. In a presentation in Hong Kong on the 2009 PISA results, Zhang Minxuan, national project manager for the Shanghai PISA study, noted that PISA measures what Shanghai students are particularly good at – namely passing exams in mathematics and science – rather than their weaknesses (Zhang 2011), and it didn't measure the price students paid for the heavy study load behind the high achievement. More multi-dimensioned criteria were needed to measure other elements of student potential important for system success, he argued. Sellars and Lingard (2013) point out that human capital does not only flow from formal education, but numerous facets of an individual's life, such as biology, psychology, the economy and society, while Ramirez et al. (2006) argue that the economic growth of East Asian countries is derived from a complex mix of origins, not merely the quality of their labour force. Lauder (2015), meanwhile, suggests an increasingly fragile link between human capital and system performance as reflected in PISA. Multinational companies search transnationally for cheap labour on the one hand and, on the other, a more nebulous 'talent' that can work in an international context, beyond mathematics, science and reading literacies. This would include language and communication skills and intercultural competencies that favour middle class elites with access to such education (Lauder 2015). As Kamens (2015) argues:

High achievement can only matter if the skills taught in schools are relevant to the needs of the economy *and if* the economy can absorb them. (Kamens 2015, 443, his emphasis)

For critics, this reflects how the economic role of education now dominates, in the context of global economic competition (Lauder et al. 2006; Morris 2015; Dale 2015; Rutkowski 2015). Others also suggest that in its governance role PISA may be distorting the purpose of education and definition of educational success through an overreliance on standardised testing of knowledge that can be

readily measured (Kamens 2015, Winthrop and Anderson Simons 2013; Torney-Purta and Amadeo 2013). Such standardised assessment of outcomes may reflect a utilitarian approach to education arising from globalisation and the drive for the economic competitiveness of human capital, which Grubb and Lazerson (2004) warned threatened to overwhelm the other purposes of education.

The purpose and nature of education are indeed highly contested and have implications for how it is measured. Esther Ho, who directs the Hong Kong PISA Study, echoes the OECD in arguing:

An ideal educational system should promote students' academic performance and also be equally accessible to all students. In other words, quality and equality are equally essential ... Equality refers to the benefit from education received by all students regardless of their socioeconomic background. In terms of educational performance, an effective education system should have students achieving an overall high standard together with a small difference in performance between those who are more advantaged and those who are disadvantaged in society. (Ho 2014, 21)

Pring (2004) argues that much research into effective schooling and effective education – which can be extended to international tests that aim to measure this effectiveness – ignores the deeper philosophical issues of what it means to be human and an educated person, and what constitutes quality of life (15). Schleicher's (2007, 350) position is that while PISA does not measure 'the entirety of competencies that will make young people successful', it still reflects important knowledge and skills necessary for modern life.

PISA: the influence of context

Many academics question the extent that PISA performance measures the effectiveness of the curricula in schools (Alexander 2012; Sellar and Lingard 2013; Leung 2014; Jerrim 2011, 2014; Gorur and Wu 2015). Results may be substantially affected by multiple factors beyond school, such as the prevalence of private tutoring, cultural attitudes and behaviours towards learning and test-taking, the educational role of the family, ethnic diversity, racial segregation and the prevalence of child labour (Meyer and Schiller 2013; Sellar and Lingard 2013; Gorur and Wu 2015). Such factors ‘would affect student outcomes even in schools with otherwise identical teacher behaviour, curriculum, testing, and administration systems’ (Meyer and Schiller 2013, 208) and limit the relevance of PISA for educational transfer and borrowing.

In his visits to 19 countries and 165 schools, Andere failed to find any common ‘best practice’ among high performing systems in PISA 2000 and 2003 (Andere 2008). He was told by many of his interviewees that league tables alone could not convey what was going on within an education system. Leung (2014) similarly argues that when variables are analysed in detail, no obvious causal relationships exist to explain the high achievement in some countries. For example in some high performing East Asian countries the parents of students are highly educated, in others they are not. Time spent learning mathematics also varies, but is not particularly high compared with western countries. You and Morris (2015) found the assumptions made by policymakers in England about the importance of school autonomy in East Asian systems that perform well in PISA did not match the understanding and varied experience of autonomy within those systems. They found that schools in those jurisdictions did not necessarily enjoy greater autonomy than those in England.

Such limitations in what international assessments can really measure and tell us have informed criticism of the way that headline results are used by policymakers and the media as a weapon or whip for damning previous policies, justifying new ones, and identifying quick solutions to address shortcomings in performance (Morris 2012; Lockheed and Wagemaker 2013; Auld and Morris 2014; Moss and Goldstein 2014; Crossley 2014; Leung 2014; Trohler 2015). Burdett (2013), who managed PISA and TIMSS in the UK at the National Foundation for Educational Research, echoes the caution of other insiders in the assessment process, writing in his blog:

The problem with the current debate is that all this arguing about whether (or not) the rankings are accurate overlooks a more significant point – they can never be meaningful. How can you say if one education system is better than another? It depends on the needs of that country not some illusory competition and there are a lot of different measures....If we get seduced by the political rhetoric and drawn into a mindset where we simplistically judge our system against contexts that bear no relation to the needs, aspirations or reality of our own education system then we will end up genuinely failing and, ironically, falling down the rankings (not that they exist!).

Leung (2014) is similarly circumspect. While defending the robustness of the studies, the limitations mean that ‘only broad-brush pictures about achievements in different countries are painted by the results, and one has to be very careful in drawing causal relations among specific variables’ (594).

PISA and Jullien’s Plan

Jullien was attracted by the educational ideas of Johann Heinrich Pestalozzi (Fraser 1964), whose philosophy of education was encapsulated in the motto “learning by head, hand and heart” embraced four spheres of life, namely the home and family, vocational and individual self-determination, the state and nation, and the inner sense of fulfilment and peace. This philosophy is reflected in Jullien’s Plan in its interest in the quality of relationships among the various people involved in education processes, although Pestalozzi criticized Jullien for constructing a framework for abstracting key features rather than seeing these processes as an organic whole (Gautherin 1993). Jullien was ambitious: he wanted to contribute a rational method for designing an education system that could lead to the creation of a new society based on ideals he formed during the French Revolution (Gautherin 1993). His Plan (which was abandoned before it could move beyond the draft stage) was intended as a contribution to the nation-building that characterized Europe in the first half of the 1800s.

When asking about the primary aim of education in one question (Section A6, Question 93), Jullien’s elaboration reveals the issues that he considers as relevant:

What are the aims of education which the children usually receive in [secondary] school? (Does one limit oneself in the majority of these schools to reading, writing, arithmetic? Or does one also give a few elementary ideas of *grammar, singing, geometrical drawing, geometry and land surveying, applied mechanics, geography and history of the country, anatomy of the human body, practical hygiene, natural history applied to the study of land products most useful to men?* All the elements of these sciences, as essentials to each individual in all conditions and circumstances of life, would seem to have to form a part of

a complete system of primary and common education, perfectly appropriate to the true needs of man in our present state of civilization.)

(All quotations are from the translation of Jullien's Plan published by Fraser (1964)).

The scope of education that Jullien sets out in this quotation suggests that focusing solely on literacy and mathematics (which are also central components of PISA) is limiting. In addition to the components mentioned in the quotation above, Jullien also indicates that the curriculum should include ancient and modern languages and physics (A6, 105), physical health and gymnastics (A4, 55 and 57), moral and religious (Christian) education (A4, 67, 69, 80-82), astronomy and meteorology, constitutional knowledge, and economics (B6, 123). He envisages a broad-based, developmental curriculum that prepares an individual to play a role in society and to be equipped with practical life skills. This reflects an orientation towards social and economic efficiency, in that it rejects a curriculum that only teaches classical subjects as encouraged by academic rationalism as too narrow, and the Plan makes no mention of student agency bringing about social change (which would match a social reconstructivist orientation), of individual differences (as one would associate with individualism), nor of the transmission of an orthodoxy, apart from an expectation that students are provided with a non-dogmatic introduction to religion and morality (A4, 81).

While a social and economic efficiency orientation is also reflected in the link between financial prosperity and student outcomes in literacy, mathematics and science that underpins PISA, Jullien's Plan does not appear to support this connection. The questions focusing on the context of schooling, how the curriculum is designed, teaching and learning, assessment and students'

experiences give the impression that Jullien's mode of inquiry into curricula is akin to the holistic and contextualized approach adopted by Alexander (2000) in his comparative study of primary education in five countries: France, Russia, India, the United States of America and England. PISA takes into account some socio-economic familial and other factors that might influence learning outcomes but has a far narrower focus than the Plan.

Another crucial difference between PISA and Jullien's Plan is the purpose behind the comparative study that each undertakes. PISA's role is evaluative and formative, in that it is designed to inform policymakers as to the strengths and weaknesses of their education system. Jullien's intention is more investigative, seeking to find out the features of schooling in a particular context; the information can then be used through juxtaposition by researchers to draw their own conclusions regarding good practices. The Plan has no element of measurement. It is largely qualitative and, although some figures can be collected in response to the questions, there is no basis for statistical analysis.

Comparisons of curriculum in the modern era, such as PISA, tend to be based on the quantitative measurement of learning outcomes in a narrow band of subjects, with a view to helping policymakers to improve their economy. This approach has severe limitations, but they have not quelled interest in international assessments, which have spawned an industry of secondary research that uses the data to identify the secrets of 'what works' among the high performing systems that others can learn from. Reports that have been influential among policymakers in England, for instance, include those commissioned by management consultants, education businesses and think tanks such as McKinsey, Pearson, Cambridge Assessment and Grattan

Institute, as well as reports by the OECD itself (e.g. Barber and Mourshed 2007; Mourshed, Chijioke and Barber 2010; Oates 2010; OECD 2011, Pearson 2012; Jensen et al. 2012). Auld and Morris (2014) describe the work of these consultancies as a ‘new paradigm’ of empirical studies while Alexander (2012, 7) refers to them as Type II studies as defined by the National Research Council of the US Academies to inform particular education policies, which he further characterises as potentially ill-conceived desk reviews focused on topical policy concerns such as standards, the curriculum, teacher training, and school leadership. Dale (2015) alludes to a trend in so-called expertise offering simplified solutions bereft of disciplined explanation. The methodology of the various consultancy reports has been viewed as problematic as they fail to pay sufficient heed to complex contextual factors and draw simplistic conclusions (Coffield 2012; Auld and Morris 2014; Trohler 2015; Morris 2015).

Jullien’s Plan, with suitable (and in some aspects, major) adjustments to match present-day realities, offers a host of questions that have the potential to bring out the complexities of curricular comparisons. His ideas are similar to those of advocates who call for more holistic perspectives, blending quantitative and qualitative approaches to evaluating curricular outcomes (e.g. Tikly, 2015). At the policy level, it includes the recent global UNESCO-led initiative to determine what students should learn, and how that should be assessed (Withrop and Anderson Simons 2013). The Learning Metrics Taskforce (LMTF) set up under UNESCO’s Institute for Statistics and the Brookings Institution’s Center for Universal Education sought to create a global framework that encompasses seven domains that extends from interest in literacy and numeracy to culture and the arts, physical well-being, and skills and emotions important for work and life (Figure 1). Its recommendations aimed to guide the development of education as a successor, post 2015, to the

Millennium Development Goals, reflecting a reorientation of Education for All (EFA) to focus not only on enrolment and completion, but the quality of learning and equity issues within as well as between countries (LMTF 2013, Winthrop et al, 2015). This appears to have heeded some lessons from, or to build on, the EFA initiative on the one hand, and PISA measurement and ranking on the other.

Tikly (2015) and Barrett et al (2015) reflect this thinking in their call for a return to the ontological and epistemological basis of learning, including an understanding of the purpose of education and how it is best delivered pedagogically in different contexts. Winthrop et al (2015) explain: “There is an emerging consensus that the purpose of education should drive measurement rather than letting what is measurable drive education goals.” (303). The LMTF framework reflected this, and global feedback that it should be much broader than the established measures of literacy and numeracy (ibid).

[INSERT *Figure 1* HERE]

Barrett et al (2015) and Winthrop et al (2015) point to an emerging consensus that while global tracking is important to support improved access to education and learning, and to address gaping gaps in equity and social justice, this needs to be adapted to local context and be locally led, albeit with regional or international technical support. Although the LMTF was officially wound up in early 2016 following UN agreement on the Sustainable Development Goals, those involved are hopeful that the work will be carried forward in the new policies, structures and resources to implement and monitor SDG 4 on education, including in how learning should be measured and

compared within and between systems (Anderson et al 2016). The latter is being led by the Global Alliance to Monitor Learning launched by UNESCO's Institute of Statistics in 2016, while the resources include the Catalogue of Learning Assessments set up by UIS as a depository of technical information of assessment to assist countries in the development of their own systems, which has further parallels with the intent of Jullien's work. It remains to be seen, however, whether tensions surrounding quantitative measures of performance highlighted in this paper will be resolved in the new structures.

Conclusion

This paper has taken the opportunity afforded by the 200th anniversary of the publication of Jullien's Plan—a landmark document in the history of comparative education—to consider current dominant trends in the field. The strength of international assessments of curriculum, such as PISA, lies in the quantitative analysis of large data sets, but, compared with Jullien's Plan and various new initiatives, such assessments take a narrower and less holistic or qualitative view of the factors that might affect desired educational purposes and outcomes. We argue that modern approaches and trends in comparative education should be subjected to critical analysis and that historical methods such as those embodied in Jullien's Plan still have something to offer if treated with circumspection. However, we are not advocating the uncritical revival of Jullien's work. The Plan was the product of Jullien's experiences and beliefs in a particular moment in history: some of the questions that he poses are no longer apt. The conventions of academic rigour, reliability and validity that have since come into force in social sciences have altered the ways in which systematic frameworks are now designed. Just as direct borrowing from other systems requires caution, so does the direct application of ideas that belong to another time.

References

- Alexander, R.J., 2012. “Moral Panic, Miracle Cures and Educational Policy: What Can We Really Learn from International Comparison?” *Scottish Educational Review*, 44 (1): 4-21.
- Andere, E. 2008. *The Lending Power of PISA: League Tables and Best Practice in International Education*. Hong Kong: Comparative Education Research Centre, The University of Hong Kong.
- Anderson, K; Motivans, A, and Tyler, D. 2016. The Sunset of the LMTF: Next steps in tracking learning for the SDGs (Part 2) Blog Brookings Institute. May 31 2016 Retrieved 21 October 2016 from <https://www.brookings.edu/blog/education-plus-development/2016/05/31/the-sunset-of-the-lmtf-next-steps-in-tracking-learning-for-the-sdgs-part-2/>
- Auld, E. and P. Morris. 2014. “Comparative Education, the ‘New Paradigm’ and Policy Borrowing: Constructing Knowledge for Education Reform.” *Comparative Education*. doi: 10.1080/03050068.2013.826497.
- Barber, M. and M. Mourshed. 2007. *How the World’s Best-Performing School Systems Come Out on Top*. Dubai: McKinsey and Company.
- Barrett, A. and M. Crossley. 2015. “The Power and Politics of International Comparisons.” *Compare: A Journal of Comparative and International Education* 45 (3): 467-470.
- Barrett, A. Sayed, Y, Schweisfurth, M. and Tikly, L. 2015. “Learning, pedagogy and the post-2015 education and development agenda.” *International Journal of Educational Development* 40 231 – 236.

- Bray, M. and M.D. Kobakhidze. 2014. "Measurement Issues in Research on Shadow Education: Challenges and Pitfalls Encountered in TIMSS and PISA." *Comparative Education Review* 58 (5): 590-620.
- Breakspear, S. 2012. "The Policy Impact of PISA : An Exploration of the Normative Effects of International Benchmarking in School System Performance." *OECD Education Working Papers No. 71*. OECD Publishing. <http://dx.doi.org/10.1787/5k9fdfqffr28-en>.
- Burdett, N. 2013. "PISA – Leaning Tower or Architectural Marvel?" *NFER Blog*, July 30. <http://thenferblog.org/2013/07/30/pisa-leaning-tower-or-architectural-marvel/>
- Carvalho L.M. and E. Costa. 2015. "Seeing Education with One's Own Eyes and through PISA Lenses: Considerations of the Reception of PISA in European Countries." *Discourse: Studies in the Cultural Politics of Education* 36 (5): 749-764.
- Crossley, M. 2014. "Global League Tables, Big Data and the International Transfer of Educational Research Modalities." *Comparative Education*, 50 (1):15-26.
- Dale, R. 2015. "Keynote Address: Conjunctions of Power and Comparative Education." *Compare: A Journal of Comparative and International Education*, 45 (3): 341-362.
- Fraser, S. 1964. *Jullien's Plan for Comparative Education, 1816-17*. New York: Teachers College, Columbia University.
- Gautherin, J., (1993). Marc-Antoine Jullien ('Jullien de Paris') (1775-1848). *Prospects*, 23 (3/4): 757-773.
- Gorur, R. and M. Wu. 2015. "Leaning Too Far? PISA, Policy and Australia's 'Top Five' Ambitions." *Discourse: Studies in the Cultural Politics of Education*, 36 (5): 647-664.
- Grubb, N.W. and M. Lazerson. 2004. *The Education Gospel: The Economic Power of Schooling*. Massachusetts: Harvard University Press.

- Han, C. 2016. "External policy referencing in education." In *Education, Ethics and Experience: Essays in Honour of Richard Pring*, edited by M. Hand and R. Davies, 135-148. Abingdon: Routledge.
- Hanushek, E. and L. Woessmann. 2010. "The High Cost of Low Educational Performance: The Long-Run Impact of Improving PISA Outcomes." Paris: OECD.
- Ho, S.C. 2014. "Quality and Equity Trends in Hong Kong Basic Education." In *The Fifth HKPISA Report: Monitoring the Quality and Equality of Education in Hong Kong from an International Perspective - From PISA 2000 to PISA 2012* edited by S.C. Ho, 8-44. Hong Kong: HKPISA Centre, The Chinese University of Hong Kong.
- Ho, S.C. and K.W. Sum. 2013. "Conclusions and implications." In *Multilevel Analysis of the PISA Data—Insights for Policy and Practice*, edited by S.C. Ho, 259-277. Hong Kong: Hong Kong Institute of Educational Research.
- International Association for the Evaluation of Educational Achievement. 2011. "Brief History of IEA: 50 years of Educational Research". IEA. http://www.iea.nl/brief_history.html.
- International Association for the Evaluation of Educational Achievement 2013a. *PIRLS 2011*. Accessed October 20, 2016. <http://timssandpirls.bc.edu/pirls2011/index.html>.
- International Association for the Evaluation of Educational Achievement 2013b. *TIMSS 2011*. Accessed October 20 2016. <http://timssandpirls.bc.edu/timss2011/international-results-mathematics.html>.
- Jensen, B., A. Hunter, J. Sonnemann and T. Burns. 2012. *Catching Up: Learning from the Best School Systems in East Asia*. Melbourne: Grattan Institute.

- Jerrim, J. 2011. "England's 'Plummeting' PISA Test Scores Between 2000 and 2009: Is the Performance of our Secondary School Pupils Really in Relative Decline?" *DoQSS Working Paper No. 11-09*. London: Institute of Education, University of London.
- Jerrim, J. 2014. *Why do East Asian Children Perform So Well in PISA? An Investigation of Western-born Children of East Asian Descent*. Working paper published by Institute of Education London's IOE's Department of Quantitative Social Science. Accessed 16 October, 2014 from johnjerrim.com.
- Kamens, D.H. 2015. "A Maturing Global Testing Regime Meets the World Economy: Test Scores and Economic Growth, 1960-2012." *Comparative Education Review* 59 (3): 420-446.
- Lauder, H. 2015. Human capital theory, the power of transnational companies and a political response in relation to education and economic development." *Compare: A Journal of Comparative and International Education* Vol. 45, Issue 3, 490-493.
- Lauder, H., P. Brown, J-A.Dillabough, A.H. Halsey. 2006. *Education, Globalisation and Social Change*. Oxford: Oxford.
- LMTF (Learning Metrics Taskforce). 2013. *Toward Universal Learning: Recommendations from the Learning Metrics Task Force*. Montreal: UNESCO Institute for Statistics and Center for Universal Education at the Brookings Institution.
- Leung, F.K.S. 2014. "What Can and Should We Learn From international Studies of Mathematics Achievement?" *Mathematics Education Research Journal* 26: 579-605.
- Lockheed, M. and H. Wagemaker. 2013. "International Large-Scale Assessments: thermometers, whips or useful policy tools?" *Research in Comparative and International Education* 8 (3): 296-306.

- Markauskaite, L., P. Freebody, and J. Irwin. 2010. *Methodological Choice and Design: Scholarship, Policy and Practice in Social and Educational Research*. Dordrecht: Springer.
- Marsh C. and G. Willis, eds. 1995. *Curriculum: Alternative Approaches, Ongoing Issues*. Englewood Cliffs, NJ: Prentice Hall.
- May, H., E. Boe, and R. Boruch. 2003. “The Ecological Fallacy in Comparative and International Education Research: Discovering More from TIMSS Through Multilevel Modeling”. *Research Report No. 2003-TIMSS1*. Philadelphia: Center for Research and Evaluation Social Policy, Graduate School of Education, University of Pennsylvania.
- Meyer, H.D. and A. Benavot. 2013. “PISA and the Globalization of Education Governance: Some Puzzles and Problems.” In *PISA, Power and Policy: The Emergence of Global Educational Governance*, edited by Meyer, H.D. and A. Benavot, 7-26. Didcot: Symposium.
- Meyer, H-D, and K. Schiller. 2013. “Gauging the Role of Non-educational Effects in Large-scale Assessments: Socio-economic, Culture and PISA outcomes.” In *PISA, Power and Policy: The Emergence of Global Educational Governance*, edited by Meyer, H.D. and A. Benavot, 201-224. Didcot: Symposium.
- Morris, P. 2012. “Pick ‘n’ Mix, Select and Project; Policy Borrowing and the Quest for ‘World Class’ Schooling: An Analysis of the 2010 Schools White Paper.” *Journal of Education Policy*, 27 (1): 89–107.
- Morris 2015. “Comparative education, PISA, Politics and Educational Reform: A Cautionary Note.” *Compare: A Journal of Comparative and International Education* 45 (3): 470-474.
- Morris, P. and B. Adamson. 2010. *Curriculum, Schooling and Society in Hong Kong*. Hong Kong: Hong Kong University Press.
- Moss, G. and H. Goldstein. 2014. “Epilogue”. *Comparative Education* 50 (3), 374-377.

Mourshed, M., C. Chijioke, and M. Barber. 2010. *How the World's Most Improved School Systems Keep Getting Better*. London: McKinsey.

Oates, T. 2010. *Could do Better: Using International Comparisons to Refine the National Curriculum in England*. Cambridge Assessment. Accessed 3 May, 2013 from <http://www.cambridgeassessment.org.uk/ca/Viewpoints/Viewpoint?id=135502>.

OECD 2010. *PISA 2009 Results: Learning Trends: Changes to Student Performance Since 2000. Volume V*. Paris: OECD Publishing.

OECD 2011. *Lessons from PISA for the United States, Strong Performers and Successful Reformers in Education*, Paris: OECD Publishing.

OECD 2013. *PISA 2012 Results in Focus: What 15-year-olds Know and What They Can Do With What They Know*, Paris: OECD Publishing.

Pearson 2012. *The Learning Curve Report*. Accessed 18 February, 2016, from <http://thelearningcurve.pearson.com/reports/the-learning-curve-report-2012/preface>

Perry, L. and Tor, D-H 2008. "Understanding Educational Transfer: Theoretical Perspectives and Conceptual Frameworks." *Prospects* 38:509–526

Pring, R. 2004. *Philosophy of Educational Research* (2nd edition), London: Continuum

Ramirez, F. O., X. Luo, E. Shofer, and J. Meyer. 2006. "Student Achievement and National Economic Growth." *American Journal of Education* 113 (1): 1-31.

Rutkowski, D. 2015. "The OECD and the Local: PISA-based Test for Schools in the USA." *Discourse: Studies in the Cultural Politics of Education* 36 (5): 683-699.

- Schleicher, A. 2007. "Can Competencies Assessed by PISA be Considered the Fundamental School Knowledge 15-year-olds should Possess?" *Journal of Educational Change*. 8: 349-357.
- Schleicher, A. 2009. "Securing Quality and Equality in Education: Lessons from PISA." *Prospects*. 39 (3): 251-263.
- Sellar, S. and B. Lingard. 2013. "Looking East: Shanghai, PISA 2009 and the Reconstitution of Reference Societies in the Global Education Policy Field." *Comparative Education*, 49 (4): 464-485.
- Steiner-Khamsi, G. 2010. "The Politics and Economics of Comparison." *Comparative Education Review*, 54 (3): 323–342.
- Thompson, G. and I. Cook. 2015. "Becoming-Topologies of Education: Deformations, Networks and the Database Effect." *Discourse: Studies in the Cultural Politics of Education* 36 (5): 732-748
- Tikly, L. 2015. "What works, for whom, and in what circumstances? Towards a critical realist understanding of learning in international and comparative education." *International Journal of Educational Development* 40, 237 – 249.
- Torney-Purta, J. and J-A. Amadeo. 2013. "Large-Scale Assessments: Challenges in Reporting and Potentials for Secondary Analysis." *Research in Comparative and International Education* 8 (3): 248-258.
- Trohler, D. 2015. "The Medicalization of Current Educational Research and its Effects on Education Policy and School Reforms." *Discourse: Studies in the Cultural Politics of Education*. 36 (5): 749-764

- Winthrop, R., K., Anderson Simons and Cruzalegui 2015. “A review of policy debates around learning in the post-2015 education and development agenda.” *International Journal of Educational Development* 40: 297–307.
- Woodward, R. 2009. *The Organisation for Economic Co-operation and Development (OECD)*. Abingdon: Routledge
- You, Y. and P. Morris. 2015. “Imagining School Autonomy in High-performing Education Systems: East Asia as a Source of Policy Referencing in England.” *Compare: A Journal of Comparative and International Education*. doi 10.1080/03057925.2015.1080115.
- Zhang, M. 2011. “PISA in Shanghai: Context, Findings and Policy Implications.” Presentation to the Faculty of Education, University of Hong Kong, 3 June, 2011.