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Curriculum

Program of research and international comparisons (2017-2020)

Literature review: contemporary approaches to comparative education research

This paper explores developments in the field of comparative education research, including references to methodological approaches that may inform the design and focus of ACARA's program of research and international comparison (2017-2020). As part of the development of the Australian Curriculum, ACARA commissioned a project to benchmark the 'final' English, Mathematics and Science curricula against international curricula. The result was the International Curriculum Mapping Project (Phase 4a): Comparing International Curricula against the Australian Curriculum, published in July 2011. The Mapping Project analysed the similarities and differences between the final Australian Curriculum and international curricula in English, Mathematics and Science. Further international comparisons, using a different methodology¹, were conducted as part of the Review of the Australian Curriculum, with the final report published in October, 2014.

Cross-national comparisons are becoming increasingly common as politicians, policy-makers and many other groups consider the challenges of educating young people in the 21st century.

In education, the greatest pressure for improvements and change now tends to come from the publication of results in international student assessments, particularly in mathematics, science and literacy. The rankings inevitably encourage comparisons with countries regarded as 'successful' and 'high-performing'. While some of these assessments have been in place for decades and have high levels of recognition and even acceptance in the public domain, there is some concern that such comparisons now risk simplistic extrapolation from the available data, including the identification of national educational strategies that may not lend themselves easily to reproduction in different socio-cultural contexts. International comparisons vary in their scope and focus, with individual countries/systems as well as national and international organisations showing interest in the findings.

High-profile international assessment strategies include the Program for International Student Assessment (PISA), which measures performance in mathematics, science and reading literacy. Other examples are the Trends in International Mathematics and Science Study (TIMSS), involving students in Years 4 and 8, and the Progress in International Reading Literacy Study (PIRLS) which assesses Year 4 students and collects extensive data on their learning environments.

The 'unprecedented research and policy debate in many countries as to the factors that drive successful educational performance' has been noted by the OECD's director of international assessment strategies (Schleicher, 2009, p. 17). In Australia, as elsewhere, researchers are aware of this particular phenomenon.

For the past decade there has been a rising interest in international comparisons of the performance of education systems. The causes are many and include the various facets of globalisation and the competitiveness and associated comparisons it produces. A driving force has been the rising significance of international benchmark testing such as PISA, TIMSS and PIRLS which are causing countries to endeavour to raise their performance. (Donnelly & Wiltshire, 2014, p. 32)

¹ The methodology was a combination of consultation and research. Information was collected via public submissions, stakeholder consultation, international and national research and the evaluation of Australian Curriculum learning area documentation by subject matter specialists. The international comparative research focused on high-performing systems and countries that were undertaking a process of curriculum renewal.

To the extent that international assessments motivate education authorities to evaluate the effectiveness of their curricula and other critical aspects of schooling, there appear to be few queries. This area of research has become increasingly contested, however, insofar as there are perceptions of a focus on systemic improvement without a concomitant appreciation of socio-cultural (and other) context, philosophy of education and capacity to effect change. The risks posed by inadequate consideration of local issues are raised in discussions of the 'rationality and irrationality of international comparative studies' (Keitel & Kilpatrick, 1999).

According to Keitel and Kilpatrick (1999, p. 247), 'the high rankings achieved by some countries on the achievement tests in some international comparative studies have led commentators in countries with lower rankings to exaggerate the results, creating a mystique about education in the high-scoring countries.' In Crossley's (2008, p. 322) view, 'the most visible manifestation of the contemporary impact of comparative research in education has emerged in the shape of cross-national studies of educational achievement, and the widespread influence of related league tables.'

Methodological tensions inherent in comparative education research

There is evidence that the application of research methodologies to comparative studies of education is problematic, with some researchers claiming that 'international comparison bolsters an evaluation mandate that promotes a superficial global awareness while stifling originality by displacing the core objectives of education' (Hebert, 2012, p. 18). This reflects a view that comparative research must move beyond mere comparison of scores (e.g. PISA), and that more studies are needed in areas such as creativity, talent, ethical sensibilities and also in relation to values and attitudes more relevant to the needs of 21st century students (Hebert, 2012).

If it is expected to contribute to curriculum reform, comparative research may need to give greater consideration to the philosophy of education and social science methodologies as well as utilising empirical approaches relating to student performance.

In rejecting evaluation mandates, Hebert (2012) observes that literacy and numeracy often overshadow other education objectives (e.g. creativity, ethics, knowledge of history, etc.) central to educational systems as a consequence of 'unbalanced policy-making'. As well, driven by a perceived need to be more 'internationally competitive', teachers often feel pressured to 'teach to the test', which ultimately contributes to a 'superficial education.' If research pays greater attention to such qualities as originality, creativity, historical/global awareness and ethics, Hebert argues, the 'educational policy landscape may be transformed' (p.24).

International comparisons conducted as part of the Review of the Australian Curriculum (reported in October, 2014; see Appendix 2) feature a comparison of school curricula in England, Finland, Ontario (Canada), Hong Kong (China), Shanghai (China), Republic of Korea and Singapore. With an emphasis on England's 2011 review of the national curriculum, the Australian reviewers concluded that:

There are inherent dangers in simplistic international comparisons with systems which perform highest on international tests, and these are well documented by Oates in commenting on Finland, Singapore, Hong Kong, Japan, and other nations. They include the underestimation of cultural and contextual factors such as the high esteem in which teachers are held, parental active engagement in education of children at home, community support of schools, mandating of literacy through legislation in other parts of the public sector, length of school day, and automatic extra personal tutoring for low achievers. (Donnelly & Wiltshire, 2014, pp. 40-41)

Reflecting on research underway in the Asia-Pacific region, Denman and Higuchi (2013, p.17) emphasise that comparative studies in education should not be grounded in a sense of competition. Rather than focusing on rankings, any comparisons should provide a 'socio-cultural lens that offers

fresh perspectives and alternative approaches that highlight “good” if not “best” practices.’ Their summary is that:

There is no one template for research in comparative education, but structure and agency can elevate quality standards. Both structure and agency are required with agency as offering a cultural lens as to how to approach the topic in question, what to analyse (when, where, and why), and how to interpret findings (p. 17)

Suggesting that policymakers should be cautious about trying to model their education systems on international examples that appear to be more effective, Raffe et al (1999) draw on a football analogy to explain the decision to compare the national curricula of England, Scotland, Northern Ireland and Wales. These are categorized as ‘home internationals’ and, at least in broad terms, seem more similar than different. The decision to conduct this intra-national study was based on their premise that any ‘differences among the UK systems are not just a nuisance and a problem to be coped with. They are also an opportunity for research (Bell & Grant, 1977; Smith, 1983), a source of empirical and theoretical challenges and of lessons for policy and practice’ (Raffe et al, 1999, p. 10).

There is resistance to the assumption that ‘each society has clear and unambiguous boundaries and that the boundaries of the education and training systems coincide with the economic, social and political institutions which provide their societal context’ (Raffe et al, 1999, p.19). Some countries and systems may reflect evolutionary influences that are neither easily explained or transferred, but a strong focus on these can nonetheless reveal rich sources of inspiration. Likewise, some countries may not appear regularly in the higher rankings of international assessments, but their national priorities for education include a commitment to other areas of intellectual, cultural and social value. This may be particularly true for the learning areas and subjects that do not carry the high-profile of mathematics and science, such as philosophy, history, the arts, health and physical education and foreign languages.

Canada, France, Belgium and Spain are examples of countries that encompass systems that are both independent and interdependent in relation to the delivery of school education. While Australia’s federal system devolves responsibility for the delivery of education to the states and territories, these administrations, like their counterparts in the United Kingdom, also belong to a larger political entity and share its ‘homogenising influence’ (Raffe et al, p. 19). This influence is a key reason for adopting a methodology focusing on ‘home internationals’ and is defended on the basis that:

- theory development based on analysis of these interdependent systems may be more useful, particularly in identifying similarities, and assist in the development of an overarching conceptual framework
- identification and analysis of differences that reflect core problems of educational research, and including, for example, issues of inequality and differentiation in schooling
- global trends and the imperatives of supra-national organisations make it essential that policymakers have detailed knowledge of educational systems and their similarities and differences
- consideration of data and developments across interdependent systems offers the potential to draw practical policy lessons
- data collection and cost-effective analysis are more likely because of the common language, cultural connections, administrative practices, geographic location and mutual appreciation of the benefits of collaboration. (Raffe et al, 1999)

Comparative education research takes account of these trends. For example, Chou (2014, p.133) argues for a simultaneous focus on national characteristics and individual education systems, concluding that national data continue to play a key role in comparative studies and that

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‘international assessments of student achievement have continued to reinforce this as one of the dominant themes in the field’.

As discussed by Bray et al (2014), education systems across the globe are under pressure from a range of perspectives and are responding in various ways. Such pressures and responses include deregulation of education in response to free-market economic policies; increases in measurable gaps between rich and poor at school, national and international levels; greater competitiveness (particularly through students’ participation in international assessment tasks) and accountability; the adoption of benchmarking to inform curriculum design and other reforms; and the influence of information and communication technology on teaching and learning.

The choice of methodology remains key to meaningful research in comparisons of educational practice. Chou (2014, p. 133) considers the work of George Bereday (1964) to be foundational in the field; his four-step method involved description, interpretation, juxtaposition and comparison, a combination that remain characteristic of much contemporary work and can apply equally to studies of curriculum and implementation. However, many other methods have been trialled since the 1960s. Often a reflection of the socio-political climate of a country or region, these have included an emphasis on:

- history
- positivism
- phenomenology
- ethnography
- narrative
- problem
- developmental (neo-Marxism, dependency theory and world order)
- postmodernism
- globalisation
- neo-institutional theory

Since 1970, numerous academics and organisations have undertaken research in the field of comparative education under the aegis of the World Congresses of Comparative Education (WCCE). The WCCE grew out of the International Committee of Comparative Education Societies, formed in 1968 by Joseph Katz of the University of British Columbia in Canada. Each member society has had its own publications with which to contribute to the knowledge base in this field of endeavour. A longstanding example is the Comparative and International Education Society’s *Comparative Education Review*, founded in 1957, which publishes peer-reviewed articles that pursue ‘educational issues, trends and policies through comparative, cross-cultural and international perspectives.’

In a field characterised by recurrent changes in methodological approaches, Bray (2002, p. 125) notes that ‘the nature of the themes, and the methodological approaches, have been very different in different parts of the world at particular periods in history.’ He claims that ‘it remains the case that the topics chosen for comparative analysis, and the methodological approaches, have continued to vary considerably in different parts of the world’ (p.126). Believing that ‘globalisation has changed the agenda in which comparativists can and should work’, Bray (2002, p.115) describes the shift in methodological approaches from those primarily based in the social sciences (e.g. literature reviews, historical studies, positivist theory, questionnaires and interviews) to a mixed use of qualitative and quantitative data. Mixed method designs have the capacity to enhance the validity and reliability of research studies (Creswell & Plano Clark, 2011).

In addition to large-scale surveys of student achievement that have dominated the field of

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comparative education in past decades, bodies including the National Research Council (USA) (2002) and other researchers (for example, Hebert, 2012; Voogt and Roblin, 2012) identify a need for a wide range of other cross-national research, such as ethnographic studies, case studies, small-scale focused, quantitative and qualitative studies, and historical studies, that would allow stakeholders to understand what it means to be educated in diverse global settings and contexts.

On one hand, multi-case studies have the capacity to contribute to an understanding of the impact of cultural, social, economic, historical and political forces on educational decisions, policy construction and changes over time. However, case studies alone are insufficient, particularly if the aim is to achieve a thorough understanding of the relationship between 'globalising trends and policy developments' (Chong & Graham, 2013, p. 2). These researchers argue for an ecological or scaled approach that sees methodological approaches move through 'macro, meso and micro levels to build nested case-studies to allow for more comprehensive analysis of the external and internal factors that shape policy making and education systems' (p. 2). This means that embedded analytical approaches should provide richer datasets capable of producing contextualised, accurate and more authentic research findings (Broadfoot 2000; Crossley 2000).

Over the past thirty years, two opposing epistemologies described by Epstein (2008, p. 377) as 'the universalism of positivism and the particularism of relativism' have characterised comparative education research. In other words, the generalisability of results obtainable from large-scale quantitative data analyses are stacked against the deep understanding that can be developed through fine-grained qualitative research methods. These paradigmatic concerns have assumed greater significance with the onset of globalisation, the rise of supra-national organisations such as the OECD, and the increased use of large-scale quantitative comparisons that seek to establish international benchmarks; see, for example, the OECD's Programme for International Student Assessment (PISA).

In portraying the early years of the 21st century as a turning point for comparative education research, Bray (2002, p. 130) argues for a greater understanding of the 'value of multilevel analysis which identifies the impact of supra-national, national and sub-national forces on education systems.' Other researchers (see Broadfoot, 2000; Crossley, 2000, 2008; Crossley & Watson, 2003) also see comparative education research as unequivocally associated with globalisation, a phenomenon that exposes both imperatives and opportunities for academics, policy-makers and classroom practitioners.

Evidence of this global shift in priorities can be found in the comparative education research projects being led by the United Nations Educational, Scientific and Cultural Organisation (UNESCO) and the Organisation for Economic Cooperation and Development (OECD), both of which identify the goal of inclusive, high-quality education that emphasises the acquisition of global competencies alongside rigorous disciplinary and inter-disciplinary instruction. Cases for reconceptualising the field of comparative education to address the contemporary challenges presented by technology and globalization have been various, as mentioned. In laying out a path for the pursuit of comparative education, Chong and Graham (2013) highlight: (i) the need for contextualisation; (ii) the effect of globalisation, and (iii) the potential for conceptual or practical application to ground a framework for international comparative research in education.

Comparative studies of curriculum

Recent comparative studies of curriculum such as the OECD's Education 2030 Project collect information from participating countries about the 'visionary documents' that guide curriculum development. In the case of Australia, for example, this includes the Melbourne Declaration which commits 'to supporting all young Australians to become successful learners, confident and creative

individuals, and active and informed citizens' and to promoting equity and excellence in education. This reflects an agenda that goes beyond any traditional definition of curriculum reform. The OECD Education 2030 Project is a manifestation of Goal 4 of the Sustainable Development Goals (SDGs) that succeed the Millennium Development Goals (MDGs); it is a commitment to a shared vision of high-quality education for all.

The process of conceptualising a curriculum might now be best regarded as an activity to be undertaken in collaboration with stakeholders within and beyond national borders. While the curriculum carries a responsibility for students within a particular country or system, it is increasingly likely to reflect international imperatives that influence and enhance the traditional disciplines. Accordingly, the selection of appropriate methodology for comparison is critical, given the central status of curriculum in the provision of education and its connection with most or all of the other elements that enable a student to progress satisfactorily through school. As an example, the necessity of placing any comparison of curriculum within a broader comparative framework is explained in the United Kingdom's Review of the National Curriculum (2012). The methodology chosen for the Review captures 'both a statistical analysis of data from recent waves of PISA, PIRLS and TIMSS and on content analysis of comparator curricula documents' (2012, p. 8). The curriculum analysis addresses each subject area, with the emphasis on comparing coverage and sequence of content, commonalities and differences, breadth, specificity and level of challenge (p. 6). However, the Review also notes the importance of considering 'both educational and societal and cultural contextual factors' (p. 7).

Many elements require attention from researchers as they analyse the nature and purpose of curricula and attempt to identify what 'works' and what might contribute to effective reform.

Henchey (2007, pp. 446-447) explains:

Curriculum is more than a body of legislation, a régime pédagogique, a set of documents with exhortations, tables, diagrams and lists, a compilation of approved textbooks and learning materials, or a series of official examinations. It is the script for a dialogue between a society and its young people, a narrative about what we think is important, an idealization of what is significant in our past, a selection of what we know and believe in the present, and a vision of what we would wish for the future.

Similarly, Jonnaert and Therriault (2013) place curriculum at the "heart of the various tensions as it integrates all the partners in the education system as it develops through honest social dialogue" (p. 415). They call for a "holistic framework: a systemic and global framework" that allows for development of innovative curricular models that are responsive to the emergent needs of dynamic education systems. As Nieto et al (2008, p. 179) assert,

We view curriculum as including not only texts, but also other instructional materials, programs, projects, physical environments for learning, interactions among teachers and students, and all the intended and unintended messages about expectations, hopes and dreams that students, their communities, and schools have about student learning and the very purpose of schools.

A rationale for curriculum design

A curriculum necessarily originates in a specific society. Conceptualising the curriculum using a systemic and holistic view 'opens up' the curriculum, rather than constricting it to a rigid model (Jonnaert & Therriault, 2013). Coming from a constructivist and Piagetian perspective, that is, including curricular achievements that are being implemented in relation to trends in society and training needs, the curriculum may be construed as a 'tool for regulating and adapting education systems to social trends' (p. 400). Of necessity, a curriculum is embedded in 'the complexity of its

own historical development.’ Adopting a systemic and global perspective places the curriculum in its context and environment and positions it in a holistic perspective. In this view, curriculum is construed as a way of ‘integrating disparate lines of inquiry around the broad idea of experience in the relationships among teachers, students, subject matter, and milieu’ (Connelly & Yu, 2008, p. 159 in Jonnaert & Therriault, 2013, p. 405).

A curriculum is generally constructed on a set of compromises that are foisted upon it by societal needs, and through which it serves its education system (Jonnaert & Therriault, 2013, p. 413). Adopting a more holistic perspective engenders a view of curriculum that is grounded in societal realities and detached from a ‘technocratic vision, embedded in a rational curricular system and focused exclusively on the delivery of knowledge’ (Jonnaert & Therriault, 2013, p. 413; Keitel & Kilpatrick, 1999). Essentially, a holistic perspective of curriculum seeks to optimize students’ integration into their environment and the contemporary world. An extrapolation of this notion is to conceive core national curricula in the same way as local curricula, that covers the ‘whole of what happens in school, and not only the objectives and contents of the various subjects’ (Halinen, 2011, p. 85). In Finland, for example, the core curricula provide the basis (administrative, legal, intellectual, and pedagogical) upon which local curricula, modified to take advantage of the local realities of a school or area, are developed for various types of training.

Locating methodologies for comparative educational research

A curriculum is more of a dynamic entity, constantly evolving and being transformed, in a constant process of flux and subject to an ever-increasing range of influences. Motivated by recent changes in society, the need for rethinking how students learn in the 21st century has been championed by the OECD’s E2030 learning framework which identifies competencies necessary for student success in a complex, uncertain, volatile and ambiguous world (Taguma & Rychen, 2016). These competencies include the following domains:

- Knowledge
- Skills
- Attitudes and values

The construction of these domains and the identification of and selection of key constructs in each domain are sourced from different disciplines. These competencies are expected to form part of international comparative curriculum analysis designed to stimulate and enhance global education reform. As Australia considers future directions for the education of its young people with the view to developing global competencies, its commitment to the OECD project is timely and affords opportunities for discussions on how life-long learning can be incorporated in the E2030 framework, and, moreover, how the framework may influence the future iteration of the Australian Curriculum. While not all of the participants in this project may be among the highest performers in international assessments, the exchange of information and approaches to designing curriculum in this century necessarily offers opportunities for reflection on local practices and underlying assumptions. As it evolves, the framework will assist Australian educators to interrogate a set of knowledge and skills required by Australian students to navigate a world experiencing technological challenges, economic and cultural globalisation, new forms of communication and social change

As is true for the curricula in any high-performing country or system, improvements to Australian Curriculum require the application of a methodology that compares the whole curriculum as well as its various components or discrete domains. A balanced comparison of international curricula looks for similarities and differences and for evidence of strength as well as weakness. Such an approach might adopt a methodology consistent with that undertaken by Creese et al (2016) in examining the

instructional systems and intended curricula of six 'high performing' countries and two American states. As each of the comparison countries and systems was undergoing curriculum reform at the time of their study, Creese et al (2016, p.21) concluded that 'revisions need to be done ... with a clear understanding of the achievements or otherwise of the current curricular system as well as insights into other, successful, jurisdictions'.

The Australian Curriculum aspires to speak to the needs and interests of every student. Mirroring the United Kingdom's national curriculum, and those of the UK's 'home internationals', there is an unequivocal commitment to equal opportunity. The Australian Curriculum pays attention to addressing student diversity, especially:

- Students with special education needs
- Students who speak English as an Additional Language or Dialect
- Students who are designated as gifted and/or talented in various aspects of development.

Consistent with the view of scholars who oppose international comparisons driven primarily by an *evaluation mandate*, (Hebert, 2012) proposes a more nuanced approach. This takes a serious view of the nation's diverse student population and gives greater prominence to issues such as underachievement and non-achievement. Underachievement among gifted students is a continuing reality in Australian schools. Existing literature suggests that underachievement might correlate to a mix of factors, including school, family, peer influence, learning disability and personality characteristics. Personality factors such as motivation and self-regulation were considered important variables in gifted achievement, as reported in an Australian study (Al Hmouz, 2008), which addressed underachievement among gifted high school students in Australia and Jordan. In this study, low achievers were compared to high and moderate achievers on their motivation, self-regulation, motivational goals, goal orientations, and attitudes toward their school, teachers and class. As well, the findings indicated a significant difference between males and females.

If curriculum comparisons are to add value and to contribute to reform, particularly in relation to student performance in international assessments, these are potential areas of interest for researchers and will draw on data from national and international assessments.

Making comparative research relevant

To understand a curriculum, researchers place it in its social and cultural environment, with the implications that emerge in any given society. In the current standards-driven climate, in which alignment of classroom teaching and learning to the national curriculum may be viewed by teachers as a compliance activity and a burden that encroaches on teaching, education systems might make international comparative research more relevant, with tangible applications that may be realised and effectively used by school teachers (Hebert, 2012).

Some broad questions emerge as nations and systems consider how to undertake comparative educational research.

- How is educational success measured?
- What is the purpose of comparing educational practice across countries and systems?
- How can comparative studies of education be most effective?
- Are there implications for choosing countries and systems that are socio-culturally very similar or very different?
- What is the potential for 'transferability' of practices across countries and systems?
- How does the study of comparative curricula fit into the broader context of education?

The most useful comparisons, it seems, are those that identify the common practices of the high-performing countries and systems. Notwithstanding the socio-cultural, economic and other significant differences that may become very evident during the comparison process, a rigorous methodology should extract the useful (and potentially transferable) conceptual as well as practical approaches that underpin education in general, and curriculum design in particular. This requires a nuanced methodology that enables consideration of local characteristics and objectives while maintaining an openness towards a wide range of international practices. If comparative education is to assist reform, then it must be a tool for both inquiry and analysis.

A critical consideration is the fact that curriculum is only one part of the educational equation.

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