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## **Living with Supercomplexity**

David Lambert (1999) used the idea 'supercomplexity' when arguing for the need for geography teachers to engage in careful moral teaching to explore with young people 'supercomplex' environmental processes in a global world. Looking back, what seemed supercomplex then seems almost simple in comparison to the challenges global education now faces.

In a previous edition of this journal, our editorial (Livingston et al., 2015) explored the role of education in a supercomplex world. The editorial framed the argument around Barnett's (2015) contention that in a complex world although bombarded by facts, evidence, data and arguments, there are frameworks to help us handle them. In a supercomplex world nothing can be taken for granted and even our frames of understanding are contested and no longer feel secure. In 2015, only two years ago, it is doubtful that we understood the full implications of what that might mean for the world and for education in 2017.

This current edition develops the theme of spercomplexity and features research in educational environments internationally: this is research to explore, research to inform and research to challenge. This issue brings together papers presenting research from researchers across four continents, Asia (Hong Kong, China, Singapore and Iran), Australasia (Australia and New Zealand), North America (Canada and the USA) and Europe (Cyprus, Spain and Portugal). These researchers, in common with others across the world, are trying to build a better evidence base for action, to help to create the firmer ground that Barnett (2015) argues is shifting beneath our feet.

The first paper in this issue explores tensions that lie in the boundaries between education, identity formation and politics. Set in the context of the Hong Kong civil disobedience campaign of September 2014, the Umbrella Movement, Fung and Lui examine teacher and student perceptions of the claim that the Liberal Studies curriculum was used as a political instrument to instigate students' participation in the protest movement. Both teachers and students challenged this claim, arguing that teachers had maintained neutrality, even when dealing with politically sensitive topics. There was, however, a perception that the proposed reform of Liberal Studies by government was politically motivated and student and teacher views about an increase in the number of China related topics were divergent. The paper offers a fascinating insight into the potential for possible present and future roles for Liberal Studies, including a possible role in the democratisation of local society.

At the other end of the continuum of research into the contribution of education, identity and society, the second paper explores the way in which school experiences impact on the lives of young adults. Entitled, 'Learning to live together. The contribution of school', Pomar and Pinya present findings from in-depth interviews with ex-students to identify the extent to which their future civic identities are influenced by their early childhood and primary education experiences. The findings are fascinating and reveal the continuing impact of early and primary education experiences on the young adults as they become civic citizens.

The theme of identity formation is interrogated in the third paper. The context here is teacher formation explored through the lens of a young New Zealand secondary science teacher who experienced education in both Māori and English medium schools in New Zealand. Edwards & Edwards conducted a series of interviews with the teacher analysing his transition from university graduate to working as science teacher. In common with the previous article by Pinya and Pomar, Edwards and Edwards offer insights into the complex inter-relationship of beliefs, cultures and experiences in identity formation, particularly where, as in this case, cultural identity and indigenous world view really matter. The authors argue that this study provides further evidence to support the view that the background and beliefs of early career teachers impact on their ideas, praxis and identity. Initial Teacher Education, they suggest, should pay closer attention to identity formation and provide greater opportunities for beginning teachers to reflect on the ways in which their own educational experiences are influencing who they are becoming as teachers.

The fourth article draws together themes raised in earlier articles in this edition: the importance of identity, and the major impact that experiences in schools have on the development of persons. Heng and Atencio investigate education in Singapore but from a perspective different to the more common recent explorations of Singapore as a country highly successful in PISA league tables. In their research, the authors investigate teachers' perceptions of students whose performance would not rank highly in PISA results – students whose educational experiences are in disadvantaged contexts and who might be described as 'low achieving'. The title of the paper 'I assume they don't think!' provides a salutary insight into the attitudes of the teachers in the study to students described as 'Normal Technical' and the lives of those whose lives lie behind the statistics.

The relationship between the national and the local is a theme developed in the fifth article of this edition. Fenwick explores the effects of discourses in regional contexts in South Australia and Ontario, Canada on the development of curriculum-based literacy standards for adolescents in their final years of schooling. Her case studies illustrate the complexity of the relationship between local and global discourses for it is the discourses emerging in local contexts that shape globally shared meanings about literacy standards and challenge key ideas that prevail in more simplistic discourses around standards. Local interpretations inform local meaning that, in turn, inform literacy standards and move them beyond more simplistic notions of standards.

A case study approach is also used in the sixth article which considers the relationship between the development of discourse and emergent citizenship. Here, Morais, Silva, Lopez and Dominguez investigate the potential of a pedagogical strategy, a cooperative learning method entitled *the constructive controversy*, to support the development of argumentative skills in secondary school students in philosophy. They explore the extent to which the use of argumentative strategies might contribute to the development of critical, ethical and political thought that leads to responsible and socially committed people.

The theme of developing dialogic processes introduced by Morais, Silva, Lopez and Dominguez is continued in the seventh article as Lam explores conceptualisations of feedback and how common assessment tasks might be 'strategically developed' (p?) to promote greater use of feedback to inform future learning. This article tackles one of the remaining conundrums of assessment for learning: how to enhance the relationship between task design, pedagogy, feedback and learning. Lam begins from a theoretical base informed by thinking on four areas of scholarship about feedback: the nature of feedback; the paradigms surrounding it; and issues and emerging trends from consideration of feedback. This theoretical overview, combined with evidence from interviews with instructors is used to propose the redesign of assessment tasks to promote more sustainable feedback processes to enhance learning in Higher Education.

The case study methodology that is used in the research for the final article is also focused on formative assessment, this time contextualized in Iranian EFL writing. Naghdipour argues that in Iran, undergraduate students' experience of assessment in universities is principally summative. The author reports on work done to incorporate formative assessment approaches into an L2 writing course and on the challenges identified by students for formative assessment in a context such as higher education in Iran.

At international, national or local levels, each of these papers contributes to the creation of firmer ground from which to build an educational future. The idea of a world of 'post-truth' suggests that there was a time of universally agreed 'truth' and that surely must be contested. However, recent political events, perhaps most notably in the UK and the USA suggest that a Rubicon has been crossed and that warranted truth is no longer an ideal worth striving for because of its inconvenience to political argument. In such unsettling times, research becomes even more important and researchers must hold one another to ever higher standards of account. The legislation in the New Zealand (1989 Education Act (section 162(4)(a)) has five characteristics that an institution must possess before it can be recognised as a university. Perhaps the "role as critic and conscience of

society" is one that has never mattered more. Having a dependable research and evidence base from which to build future education policy and practice seems more important than ever.

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