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A CAMBRIDGE ASSESSMENT PUBLICATION

Foreword

This edition of *Research Matters* has an unusual character, not obvious from the surface. Key elements of the work were commissioned urgently, as part of the now-superseded English Baccalaureate Certificate (EBC) initiative. Each strand of work is naturally interesting in its own right. But overall, the EBC process represented a more subtle yet fundamental shift in the research process around public qualifications regulated by Ofqual. Research on assessment can be seen as a public good, just as research from Higher Education increasingly is being released openly as a public good. But the EBC process was double-edged. On the one hand, it increased the research intensity of the work of the exam boards, each of whom would be competing for the exclusive EBC contracts. Research base and research integrity was clearly a vital part of the submissions. On the other hand, the bidding process commodified that research – bids could succeed or fail on the basis of the underpinning research. Advantage would be gained on the presentation of exclusive, high-quality work revealed only at the point of competitive judgement around the contracts. This process had implications for research focus, research process, and for collaboration across the sector. Of course, we should not be naïve about the 'race to publish' and the 'advantage from discovery' which exists in all areas of enquiry – but intensive commodification of research may carry considerable downsides. For now, we can celebrate the upside of the EBC process – a lot of high quality work was done with amazing intensity – and we can now all enjoy the benefits of the insights gained.

Tim Oates *Group Director, Assessment Research and Development*

Editorial

Most of the articles in this issue report on research related to the current qualifications reform agenda in the UK. Suto and Rushton compare provision for less able students in England and in four high-performing jurisdictions around the world. Although they caution against direct policy borrowing, they recognise that useful insights can be gained through international comparisons. Rushton explores misconceptions in Mathematics through the analysis of errors in responses to examination questions. At a time when qualifications are being reformed and support resources are being developed, research of this kind can inform materials development and help students to acquire a better understanding of mathematical skills and knowledge. In the third article, Creatorex discusses the longstanding debate about the advantages and disadvantages of contextualisation of Mathematics questions. She outlines the difficulty of defining 'context' and presents a number of taxonomies that have been developed to address the challenge of definition. Her conclusions provide guidance for those engaged in qualifications development and the production of high-quality examination questions.

Elliott takes a methodological look at how international comparability studies can best be conducted. She focuses on the advantages and limitations of making descriptive comparisons with other jurisdictions. This is a useful source of information for those who wish to engage in such activities as it highlights the challenges and provides practical advice which can contribute positively to the debate on educational reform. Crisp continues the theme of international comparability on cultural and societal factors in high-performing jurisdictions. She draws together information from a range of secondary sources to provide insights into factors that influence education while recognising that the success of an education system results from complex interactions of different factors and that cultural and societal contexts must be taken into account. Crisp's thoughtful consideration of common themes resulting from her case study approach provides an informative overview of an increasingly prevalent focus of attention.

The qualifications reform agenda has also raised questions about the structure of qualifications. Benton investigates the effects of tiered examinations on the aspirations of young people. He considers factors such as achievement and students' background characteristics alongside entry tier and aspirations to identify potential links to negative effects on wider educational aspirations. The results from this research call into question some widely held beliefs about the impact of tiered qualifications on student aspirations and motivation.

In this issue a number of articles concentrate on current initiatives and medium term changes to qualifications. Dhawan's study takes us further by exploring how developments in neuroscience might affect education and test development in the long term. He provides an overview of brain mapping techniques and the widening range of applications of neuroscience particularly in the fields of education and learning. Dhawan provides some cautionary notes about the limitations of current knowledge whilst also recognising the huge potential for future research.

Sylvia Green *Director of Research*