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Foreword

A UK newspaper headline recently declared that “China uses drones to catch students cheating in exams” (*Telegraph* 2015, June 5). Education authorities in Luoyang, central China, used the latest generation of drones, which “From heights of up to 1,640 feet...will be able to home in on radio signals created by students who are using hidden earpieces to obtain the answers to exam questions...”. New technology, old problem. Elsewhere in China, miniature silk booklets dating from the middle of the Qing dynasty (1644–1912) recently came to light: 160 pages containing 140,000 characters – all drawn from the fearsome Chinese civil service entrance exams – and all in a book two-and-a-half inches long and under two inches wide. Quoted in the *Telegraph* (2009, July 15), the vice chairman of the Hainan Collectors’ Association stated that “The examinees had all sorts of ways of hiding these cheat sheets. They hid them inside hats, the soles of their shoes or their lunch boxes. Some sewed them into their underwear”. Fast forward to this century, and some of the uses of social media around exams (the first article in this issue) stimulated the use of ‘time zoned’ papers. These prevent premature exposure of items, where students in one time zone have sight of and complete their exams before others around the world take the assessment. Likewise, important analysis of minutiae gives insight into candidate identity (in the second article). Cheating appears always to have been a feature of high-stakes assessment. The methods used by exam authorities need constant innovation to keep ahead of the growing catalogue of ways of cheating. And that we are doing. Trust should also be a focus of attention. Some innovation, such as the new approach to practical work in Science GCSE and GCE in England, is the result of our recognition that we have placed contradictory demands on teachers – accountability asks them to constantly improve their results, while in their role in assessing practical work they also were expected to be the objective, remote agent of the exam board. Cambridge Assessment considered this professional contradiction to be untenable for all, not least in being a threat to the important relation of trust between teachers and exam boards. This kind of structural analysis and refinement needs to accompany the development of new approaches to exam security, since mutual recognition of the importance of fair, accurate assessment is perhaps the most important objective we need to pursue. And of course, the most straightforward and robust way of doing well in an assessment is simply this: covering the syllabus deeply and comprehensively, knowing well, and doing competently the things required. Solid learning preceding accurate assessment.

Tim Oates, CBE Group Director, Assessment Research and Development

Editorial

The first three articles in this issue feature the use of technology, albeit in very different contexts. Sutch and Klir describe the collection and analysis of 6.44 million tweets from the summer 2016 UK examination series. They used real-time data from Twitter to establish the extent of exam-related tweeting, patterns over time, topics discussed, and sentiments expressed. Their research provides insights into students’ perceptions and feelings about exam questions and illustrates the way candidates deal with the challenges that they face. In his article, Benton reports on research which explores the extent to which handwriting could be checked by computers to ensure that the same person has completed all components leading to a qualification. In this challenging area, the availability of scanned images resulting from online marking processes has enabled automated analysis to take place. This research experiments with some simple metrics which can identify changes in handwriting that require further scrutiny. Efficient and effective methods would be a valuable addition to the range of methods already used to discourage fraudulent practice. Bowyer and Chambers discuss the use of technology in the context of learning in their article. They provide a brief introduction to the concept of ‘blended learning’ and outline issues related to the implementation of blended learning programmes. Their description of existing evaluation frameworks is followed by their own framework which includes additional constructs. This is a very useful evaluative tool which can also be applied to other technology based situations.

The last two articles move away from the technology theme and focus on qualifications that assess complex skills and competence. Gill investigates whether the range of skills developed while undertaking the Extended Project Qualification might be transferrable to other qualifications taken at the same time, and might improve performance in those qualifications. The findings from this research are important in practice and lead to a number of worthwhile areas for further research. In the final article, Greatorex, Johnson and Coleman address the challenges of assessing complex vocational competence. They review the measurement qualities of checklists and Global Rating Scales in the context of assessing complex competence. In their conclusion, they provide valuable insights into the challenges of assessment in the vocational field. They succeed in providing a firm base for those working in this area to build on when deciding which tools are useful in their particular areas of assessment.

Sylvia Green Director, Research Division