
Editorial

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Biographical notes: Kam Cheong Li is a Visiting Professor at the School of Health and Education, Middlesex University. He founded the Institute for Research in Open and Innovation Education at the Open University of Hong Kong, and currently oversees research at the university. He also served as the Secretary General of the Asian Association of Open Universities. Besides serving as an editor for the *Asian Association of Open Universities Journal*, he is an editorial board member for the academic journals: *Higher Education Quarterly* and *Interactive Technology and Smart Education*. His research interests lie in e-learning and technology in education.

Fu Lee Wang is the Dean of the School of Science and Technology at Open University of Hong Kong. He was the Vice President of Research and Technology at the Caritas Institute of Higher Education and faculty member at City University of Hong Kong. He received his PhD from the Chinese University of Hong Kong. He has over 250 publications in international

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Jeanne Lam is the Head of E-learning at the HKU School of Professional and Continuing Education. She received her Doctorate in Education at the University of Nottingham. Her interested research areas include e-learning, blended learning, gamification and educational technology. Her expertise includes management and development of e-learning system, multimedia design, production for e-courses and virtual reality materials, and development of artificial intelligence in learning.

Chung Keung Poon is a Professor and Head of the Department of Computing at Hang Seng University of Hong Kong. He worked at the University of Texas at Austin, City University of Hong Kong and Caritas Institute of Higher Education. He received his PhD at the University of Toronto. He is a theoretical computer scientist with great interest in applying his expertise in algorithm design to solve problems in other areas. His Erdős number is 3 and he is an academic descendant of Carl Friedrich Gauss.

Innovation has been widely recognised as an essential element in contemporary education, in which the use of technology is playing a key role. Given the rapid developments in this area, new features have been continually generated from initiatives to advance existing practices. The findings on this topic also serve to inform us on how to move towards achieving sustainable practice of innovation (Niederhauser et al., 2018; Sampson et al., 2018).

This special issue presents a compilation of projects, proposals and initiatives on innovative ways to enhance learning through technology. It contains seven articles, which are mainly selected from the papers presented at the 2018 International Conference on Technology in Education held in the Caritas Institute of Higher Education in Hong Kong, with substantial expansion and revision. The articles – differing in nature, aims, perspectives and methodologies – illustrate the diverse ways in which innovative learning can take place in terms of the educational level, discipline, technology and context. The studies cover students at the secondary, undergraduate and postgraduate levels from regions such as Albania, Czechoslovakia, Hong Kong and Peking; disciplines such as mathematics, nursing, and English learning; and a range of emerging education technologies from learning analytics to mobile instant messaging (MIM), multimedia annotation, immersive reality and 3D printing. These articles show the enormous possibilities for the adoption of technology for innovative learning. The foci of the articles – ranging from introducing the use of new technologies for learning to reporting the effectiveness of innovative ways of learning and analysing learner difficulties in innovative practices – are consistent with the global trend in efforts to promote technology integration in education as reviewed by Delgado et al. (2015).

In the first article ‘Implementation of blended learning in a higher education institution in Albania: an analysis of factors that affect students’ learning experience’, Prifti reports on students’ level of satisfaction with their online learning experience in blended learning at an Albanian University. This study contributes to identifying the factors (e.g., platform accessibility, perceived utility and perceived confusion about the course content) which are significantly related to how satisfaction with their online learning experience is perceived by students.

In ‘Investigating the effectiveness of vocabulary learning tasks from the perspective of the technique feature analysis: the effects of pictorial annotations’, Huang et al. adopt pictorial and textual multimedia annotations to promote the learning of vocabulary by first-year university students in China. They show the various effects of such facilitation for the learning tasks of reading comprehension, sentence writing and cloze-exercises, as well as learners’ preference for the kinds of annotations. Their findings provide useful information for the design of materials for English vocabulary learning with the aid of multimedia.

Also focusing on English learning, Kostolanyova and Simonova devise an adaptive e-learning model for reading comprehension and listening comprehension in their article ‘Adaptive e-learning model for learning English as a second/foreign language’. They reveal the value of learners’ sensory preferences – visual, aural, reading/writing, and kinaesthetic – for aiding their language learning through the use of grammar tests for identifying their sensory preferences; and based on this, individualised study materials, exercises and tests are provided to the learners. This individualised support is shown to be beneficial for the learning of reading and listening comprehension.

In the article ‘Investigating the use of mobile instant messaging-facilitated 5E-flipped learning: a two-stage study’, Tang et al. combine the technology of MIM with the flipped classroom to engage students in learning. The MIM tool facilitated out-of-class interaction among students, who gain more time for discussion and problem-solving in flipped learning practices. Tang et al. also show students’ preference between the MIM and a conventional online discussion forum. The latter was preferred for academic discussion, and the possible reasons for this are discussed.

Le et al. report their findings on timeout behaviour – the failure of learners to submit the answers to test questions within a time limit – in their article ‘The analysis of timeout behaviours in online tests’. From their analysis of data from middle school students on an online learning platform, the descriptive, correlational and regression results suggest the influence of the number of test items on the students’ timeout behaviours. Their findings are useful for optimising the number of questions in online tests so that learners do not face overly high time pressures.

Ng et al., in their article, ‘Using immersive reality in training nursing students’, introduce how immersive reality – including virtual reality and augmented reality – can be utilised to prepare future nursing and healthcare professionals. They propose the use of immersive reality to help students to become familiar with the hospital wards and provide them with training in basic nursing skills. As a result, nursing students became fully aware of the hospital environment, its setup, nursing stations and equipment; and they could practise nursing skills such as injections and wound dressing in a simulated environment. Ng et al. demonstrate the high potential of this innovative use of technology for clinical training.

In ‘Supporting more engaged learning: the case for the 3D printer – a position paper’, Wyeld discusses how a 3D printer can be used for student engagement. The article points out the strengths of 3D printers for online learning and career-focused learning. This technology has been utilised in online courses on additive manufacturing, and learners can share their 3D designs online with others. It is also an ideal tool for integrating work and learning. In addition, Wyeld presents a case on the use of 3D printing technology for beautifying a traditional art form of pottery.

The findings and ideas in these articles will contribute to stimulating new research work and discussion for further developments in the relevant areas. Lack of knowledge, skills and training have been identified as major barriers to the successful integration of technology into education (Francom, 2019; Tosuntaş et al., 2019). These diverse articles will provide researchers, practitioners, and management in the education field with timely knowledge and skills for enhancing teaching and learning with technology.

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