Editorial

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Oliver T.S. Au received his BA, MSc and PhD in Computer Science from the York University, University of Toronto and Loughborough University respectively. His research interests are in the areas of formal methods, requirements engineering, student motivation and study habits. As an Assistant Professor, he teaches software engineering at the Open University of Hong Kong where he also serves as a member in a number of quality assurance

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Technology-enhanced learning has been practiced in many higher education institutions. With the new and latest technological innovation, the teaching and learning process is undergoing many revolutionary changes. In recent years, the advances in communication technology have encouraged more proactive interaction among the teachers and students. This high degree of connectedness has indeed introduced new concepts and practices of blended learning and collaborative learning. Learning analytic is another evolving area to further explore in the field. All these share the same goal of improving the teaching and learning process with technological innovation.

With an aim to disseminate research results and share good practices for improving the teaching and learning process, this special issue on technological innovation in teaching and learning practices explores how the new and latest technological innovation can be effectively applied to teaching and learning. It contains six refereed papers, which are selected from the papers presented at the 9th International Conference on Blended Learning and the 2nd International Symposium on Educational Technology, both held in the Peking University, Beijing, China on 19 to 21 July 2016, with substantial expansion and revision.

The first two papers investigate the students' interaction in the collaborative learning environment. In the paper, 'Exploring different types of interaction on collaborative learning in online platforms', the authors examine the students' social interaction and learning interaction in an online and mobile collaborative learning environment. Content analysis was conducted to 78 college students, studying information engineering on two online learning platforms, namely, Moodle and WeChat. The analysis results show that Moodle is more suitable for learning interaction whereas WeChat is more suitable for social interaction. Besides, a shallow level of interaction knowledge building is found in both the Moodle and WeChat platforms. It is therefore suggested that some appropriate strategies should be taken to guide students to collaborate and interact as well as to deepen their interaction level.

The second paper, 'When and how does learning satisfy? Working collaboratively online with a clear purpose', investigates the students' learning satisfaction in an online collaborative learning environment. Specifically, it aims to explore whether social media can enhance the students' learning satisfaction by analysing the relationships among the students' learning purpose, collaborative learning, and usage behaviour. A survey was conducted to 204 university students. The results show that the students' learning purpose and usage behaviour are directly related to collaborative learning, and have a significant and positive effect on the students' learning satisfaction.

New and latest technological innovation would trigger some new ideas and concepts for blended learning, as reported in the third and fourth papers. In the third paper, 'The design and exploitation of blended learning concept: comparative study of two universities', the authors reviewed two different blended learning concepts adopted in two higher education institutions in Czech Republic. Data collected from the concerned learning management systems were analysed on the visit counts, students' performance, grading, and student-teacher communication. The students' performance was tracked, and the blended learning concepts are compared and evaluated.

The fourth paper, 'STEP on connected classroom climate in a hybrid learning environment', proposes a number of good practices for teaching and learning in a hybrid or blended learning environment, where the focus is placed on the student-to-student perception of the connected classroom climate. It is suggested that students should have the authority to self-direct their learning, and that the contact hours should be adjusted in accordance with the students' needs. It is also suggested to provide more interdisciplinary contents and discussions, as well as to emphasise the students' teamwork and showcase the students' collaborative work.

The fifth paper, 'A flexible graph-based model for facilitating digital learning activities', reports a novel application of big data to support learning. It is a valid issue that users may be overloaded by vast amount of e-learning resources. In order to better understand the users' intentions, preference and prior knowledge, a flexible graph-based model is proposed by incorporating the social relations among the users, content relations among the learning resources, and the pre-requisite relations among the knowledge units. By consolidating these relations, the model helps facilitate various digital activities in an e-learning environment.

In the sixth paper, 'CRESDA: extending data landscape of learners', the authors propose a new form of students' e-portfolio which captures both academic results and non-academic achievements. This addresses the need of aligning students' extracurricular activities with the learning outcomes. The paper discusses the challenges, and reviews a practical implementation, called CRESDA. It also provides a platform for collecting big data on students' academic results, non-academic achievements, demographic attributes, and psychological data, where learning analytic can be applied to predict the students' success in their courses of study.

Finally, we would like to thank Dr. Kongkiti Phusavat, the Editor-in-Chief of the *International Journal of Innovation and Learning*, for his kind acceptance of publishing this special issue. We also like to express our appreciation to Miss Barbara Curran for her efforts in assisting the publication of this special issue.

We hope that you would enjoy reading the papers.