Guest Editorial Preface

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Special Issue of Revolutionizing Web-Based Learning and Teaching Technologies: Challenges, Innovation, Collaboration

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The rapid development of technology has greatly influenced the field of teaching and learning. It has become essential for teachers and educational institutions to utilize technology especially web-based technology in the classroom as it is of great benefit to the students. For example, the advent of Internet of Things (IoT) has given rise to a technological revolution that enables ubiquitous interaction between objects or "things", people and the surroundings. Data is collected by embedded sensors and actuators, which are then sent to dedicated gate way applications to be processed into information for further action to be taken. In line with this trending technology, the education sector should be at par in providing the facilities to equip students especially to those undertaking studies in the field of Information Technology and consider the use of Web Based Learning (WBL) and Assistive Technologies (ATs). Besides, one of the methods that proved to be effective in teaching EFL/ESL students is computer assisted cooperative learning (CACL).

The Interim Strategic Plan 2011-2020 has highlighted the importance of leveraging on ICT to upgrade the quality of learning among Malaysia learners (Ministry of Education, 2012b). In accordance with the proliferation of technology and the Malaysian government's vision of providing quality internet-enabled education for all, the Ministry of Education Malaysia (MOE) had initiated a project known as 1BestariNet and it is one of the many initiatives identified under the first wave of the Malaysian Education Blueprint (2013-2015). Under the project, schools will be equipped with an integrated solution allowing teaching, learning, collaborative and administrative functions to take place through the Internet-based Virtual Learning Environment better known as Frog VLE and a high-speed connectivity to all its 10,000 schools. Previous studies have shown that interaction through online platforms has a positive influence on the process of learning. However, these studies have not really shed light on the integration of web-based technologies in the Asian educational context. It leaves room for further exploration and improvement.

The organisers of the 9th International Conference on University Learning and Teaching (InCULT 2018) sought to pay tribute to the latest developments that brought web-based technologies in learning and teaching from its infant steps in the early 2000s to maturity in 2018, while simultaneously paving the way for the broad and open waters ahead with new developments and progress in web-based technologies, and emerging ambient technologies, hence the conference theme of "Revolutionizing Web-Based Learning and Teaching Technologies: Challenges, Innovation, Collaboration" has been suggested.

This special issue of "Revolutionizing Web-Based Learning and Teaching Technologies: Challenges, Innovation, Collaboration" contains five revised and extended papers from the 9th

International Conference on University Learning and Teaching (InCULT 2018) held on 28th to 29th November 2018 at Concorde Hotel, Shah Alam, Malaysia. This well-established conference series extends the theory and practice of university learning and teaching in converging technological environments. It fulfils the need for stimulating critical debate on progressing from research into theories, approaches, principles, applications, and the implementation of web-based technologies in learning and teaching.

The five papers in this special issue cover a range of aspects of web-based technologies, from case studies in an IoT Learning Inspired Platform to the use of Frog VLE among Secondary School Teachers in Malaysia, as well as discussions on enhancing teaching and learning in Ghana, using assistive technology. These papers among others highlight the innovative attributes of F2F computer assisted cooperative learning in teaching reading skills, and research on small group writing activities compared to individual flipped models through WhatsApp in writing skill. Each of these revised and extended papers has undergone full double blind peer reviewing, prior to selection for this special issue.

The first paper entitled "Integrated Smart Home Model: An IoT Learning-Inspired Platform" was written by Nurshahrily Idura Ramli, Mohd Izani Mohamed Rawi, and Mohd Izani Mohamed Rawi. They assert that the inclusion of IoT syllabus in computer sciences courses as well as providing facilities and space for learning, exploring, development, and innovations of IoT is imperative and welcomed in today's education to equip students with the knowledge and the skills that are needed in almost any field today and definitely in the future.

In "Relationship Between Computer-Mediated Communication Competence and Attitude Toward Using Frog VLE Among Secondary School Teachers," Oh Siew Pei and Chua Yan Piaw describe the implementation of Frog VLE that helps 21st century learners to become better learners in this new era. They explain the virtues of this platform in enabling students become successful in their education and life and at another level how the platform improves the quality of schools in Malaysia as a whole. Future research related to Frog VLE usage has been recommended to examine the perspective of school principals. This is because principals play a significantly important role in ensuring successful integration of ICT within the school. In order to ensure the field of computer-mediated communication continues to mature, the researchers propose that more research should be carried out in this field.

Empirical evidence shows that individuals who are completely blind or partly visually impaired display normal behaviour patterns without exhibiting any overt cognitive, emotional and behavioural disorders. It has been established that the Blind and the Visually Impaired (B &VI) persons exhibit an equal level of astuteness and skills as in sighted people and that there is no link between the Intelligent Quotient (I.Q) of the B &VI persons and their impairment. Hence, John Biitian Lanbon, Kenny Cheah Soon Lee and Siaw Yan-Li in their paper entitled "Enhancing Effective Teaching and Learning of ICT in the Schools for the Blind in Ghana: The Role of Assistive Technology" have recommended that governments should provide the B&VI education a priority through regular supply and maintenance of Assistive Technology devices and the right software and applications. They have also suggested that more teachers must be trained to augment the number of trained personnel who can effectively handle ATs in the schools for the blind in Ghana.

Amr Abdullatif Yassin, Norizan Abdul Razak and Tg Nor Rizan Tg Mohamad Maasum explore innovation attributes in their paper entitled "Innovation Attributes of F2F Computer-Assisted Cooperative Learning in Teaching Reading Skills." This study used innovation attributes in order to investigate the attitude of learners towards face-to-face CACL, based on the assumption that positive attitude concerning innovation attributes will increase its adoption and guide others to try out this innovation in different contexts. This paper suggest that teachers and educational institutions need to focus on the advantages students might gain from the innovation since it has an influence on other innovation attributes, namely compatibility, observability and trialability. That is, the focus on the advantages increases the adoption decision for any new teaching practice.

Yudhi Arifani in his paper entitled "Research on Small Group Writing Activities Compared to Individual Flipped Model Through WhatsApp: Writing Skill" explores the use of flipped classrooms in the Indonesia context. This paper investigates whether small group flipped model via WhatsApp

with small group writing activities can improve EFL learners' cohesion than the individual flipped model via WhatsApp with individual writing activities. It is recommended that ESL writing skills teachers implement a combination of flipped classroom and WhatsApp as a supporting media through small group discussion models in the teaching and learning process and integrate the technique as part of the EFL/ESL curriculum.

As the *International Journal of Web-Based Learning and Teaching Technologies* (IJWLTT) has been the supporting journal for the 9th International Conference on University Learning and Teaching (InCULT 2018), IJWLTT is proud to bring you this special issue. We hope that reading these high-quality papers will inspire you to make your own submissions to future research on web-based university learning and teaching.

May these contributions pave the way for the broad and open waters ahead with all the new developments in web-based technologies, and break down the physical barriers imposed on us by space and time to create an enduring virtual teaching and learning environment for everyone.

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