INTERNATIONAL CONFERENCE ON
TECHNOLOGY IN EDUCATION 2018

Programme Book

9 to 11 January 2018
Caritas Institute of Higher Education

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The organizers reserve the right to amend the programme as and when necessary.

Message from the Programme Chairs

The future of education will be created by us — today's educators. Technology now plays a pivotal role in planning, implementing and evaluating education. For educational advances, it is essential that we keep identifying ways of utilizing technology effectively through research and sharing our findings and practices. The International Conference on Technology in Education (ICTE) aims to work with Conference participants to contribute to shaping education's future.

In this Conference, ICTE 2018, the third in our series, we are honoured to have four renowned scholars to deliver keynote speeches. They are Prof. Kai S. Koong, Professor and Dean at Andrew F. Brimmer College of Business and Information Sciences, Tuskegee University; Prof. Kongkiti Phusavat, Professor at the Department of Industrial Engineering, Kasetsart University; Prof. Gwo-Jen Hwang, Chair Professor and Dean at the College of Liberal Arts and Social Sciences, National Taiwan University of Science and Technology; and Prof. Jianli Jiao, Professor and Director at the Future Education Research Center, South China Normal University. I am sure that they will inspire us with their latest research findings and educational practices.

In our parallel paper sessions, we have accepted more than 40 papers for presentation, which are from 10 territories. Also, we continue to have the Best Paper Award and Excellent Paper Awards to recognize outstanding performance in research work.

The Conference is a platform for building professional networks. I encourage you to take the time to get to know your counterparts from other countries and regions, so that you can have academic exchanges and collaborative activities throughout the year. We hope you will meet old friends and make many more new ones who share a passion for technology in education.

We owe a debt of gratitude to the members of the Programme Committee for their meticulous efforts in reviewing and commenting on the papers. Our grateful thanks also go to the

Organizers and the Organizing Committee for entrusting us with the important task of overseeing the Conference programme. In addition, we would like to give special thanks to Dr Simon Cheung for kindly offering extra support to the work of the Programme Committee.

Lastly, we thank you all for joining us at ICTE 2018 and bringing your expertise to the Conference, which is a positive step for moving our profession forward. We sincerely hope to see many of you again next year.

Dr. Kam Cheong LI
Programme Co-Chair, ICTE 2018
Director of Research
The Open University of Hong Kong

Dr. Jeanne LAM
Programme Co-Chair, ICTE 2018
Head of E-Learning
HKU School of Professional and Continuing Education

Message from the Organizing Chair

I would like to extend my warm welcome to all delegates of the International Conference on Technology in Education 2018 held in the new campus of Caritas Institute of Higher Education.

Being the third in the series, this Conference continues to serve as a platform for researchers, teachers, administrators and persons involved in higher education to share their latest research results, experience and perspectives in the use of technologies in education.   It also provides an opportunity for participants to exchange new ideas, make new connections and begin new collaborations for more research work in the area, ultimately leading to the advancement in education.

In the coming three days, we will have an exciting programme featuring four eminent keynote speakers to share their experience and insights in different aspects of teaching and learning with technologies.   We have also scheduled more than 40 presentations of papers selected by our Programme Committee.

I would like to express my gratitude to all the parties and people who made this conference possible: the sponsors, the Program Committee, the Organizing Committee, authors, participants and helpers.   Thanks also go to EasyChair (www.easychair.org) for providing the free conference software.   I wish all of you an enjoyable and fulfilling experience in the Conference.

Prof. Chung Keung POON
Organizing Chair, ICTE 2018
Dean, School of Computing and Information Sciences cum Director, Research Office,
Caritas Institute of Higher Education

Acknowledgments

About ICTE 2018

Technology has become an integral part in virtually all aspects of education, broadly covering curriculum planning, content development and delivery, communication among learners, instructors and institution, assessment and programme evaluation. The International Conference on Technology in Education (ICTE) aims to serve as a platform for relevant academic exchanges across higher education institutions, focusing especially on sharing of good practices and results from studies.

We sincerely welcome administrators, teaching staff, researchers and persons involved in higher education to participate in this event. ICTE 2018 is organized by Caritas Institute of Higher Education (CIHE).

Conference Theme

Papers are welcome on topics relevant to the conference. These include, but are not limited to, the following:

- Blended learning in practice
- Mobile learning and ubiquitous learning
- Use of social media for learning
- Computer supported collaborative learning
- Intelligent tutoring and advising systems
- Learning platforms and content management systems
- Massive open online courses
- Institutional policies on technology-enhanced learning
- Knowledge management through technology
- Educational administration through technology
- Technology in Vocational and Professional Education and Training (VPET)

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Conference Venue – Caritas Institute of Higher Education (CIHE)

Address: 2 Chui Ling Lane, Tseung Kwan O (Exit B, Tiu Keng Leng MTR Station), New Territories, Hong Kong

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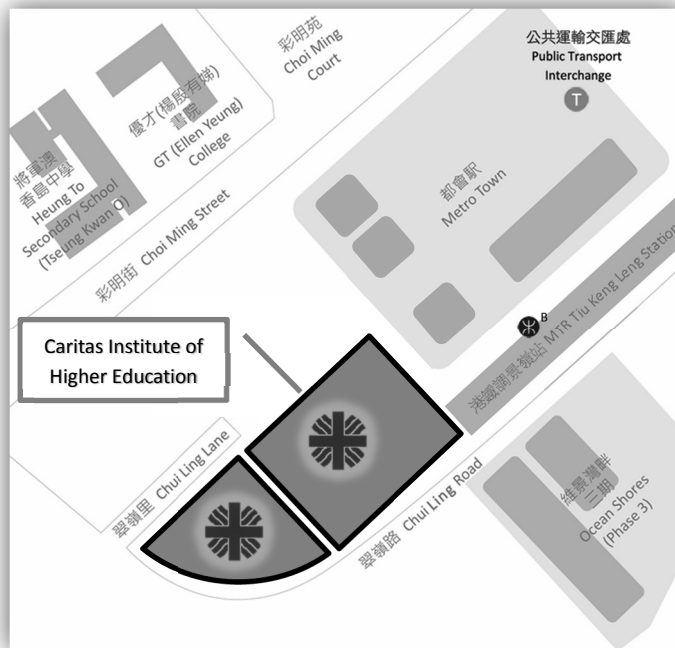
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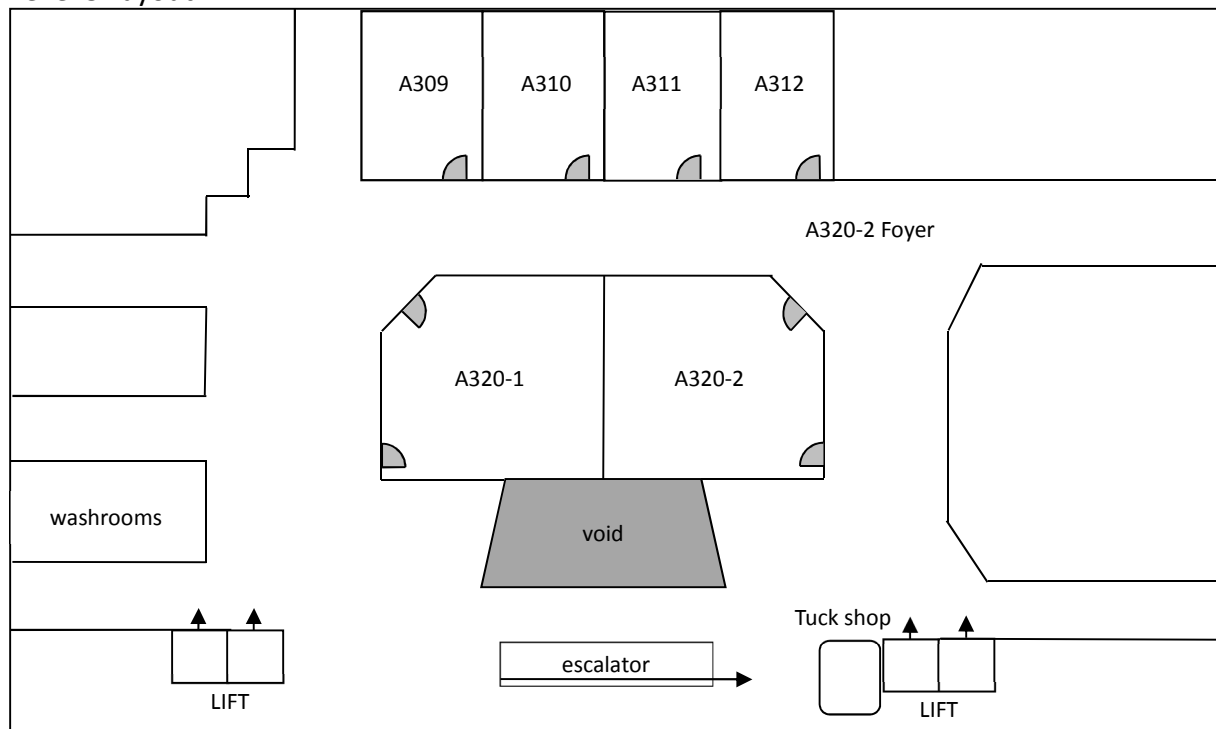
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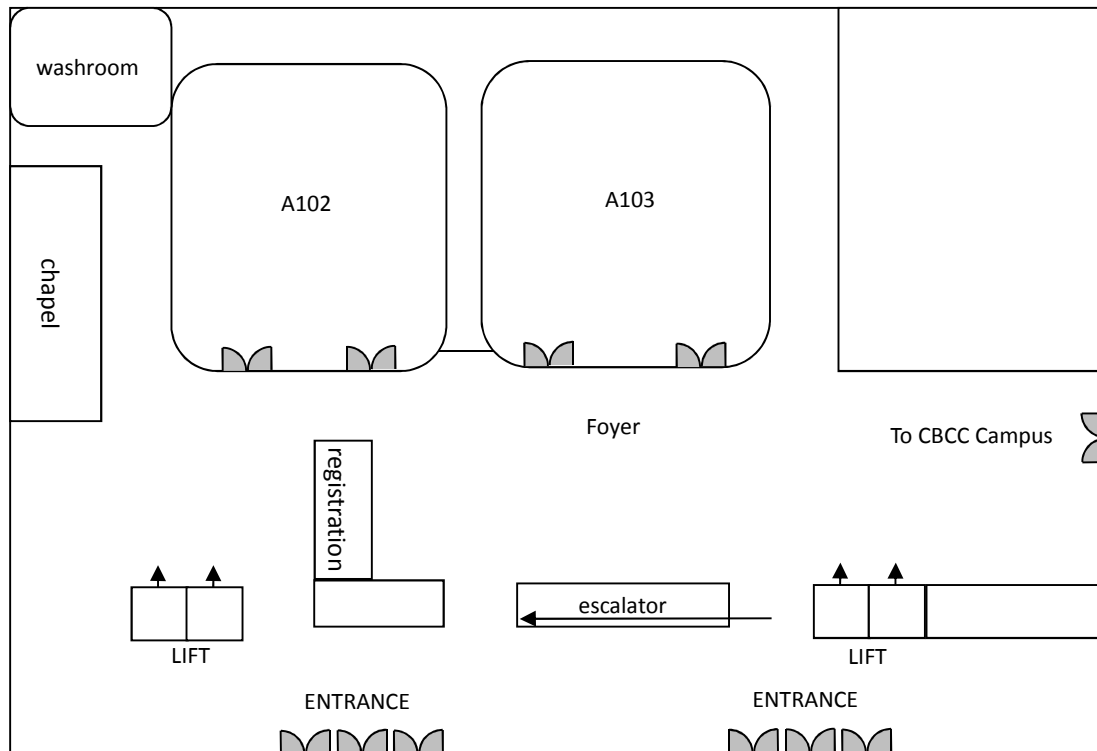
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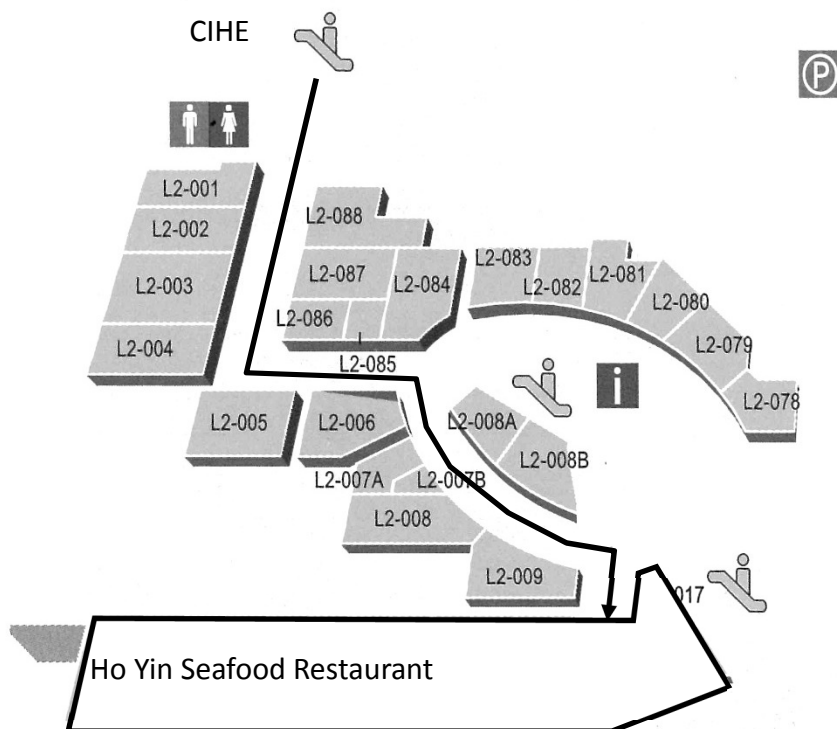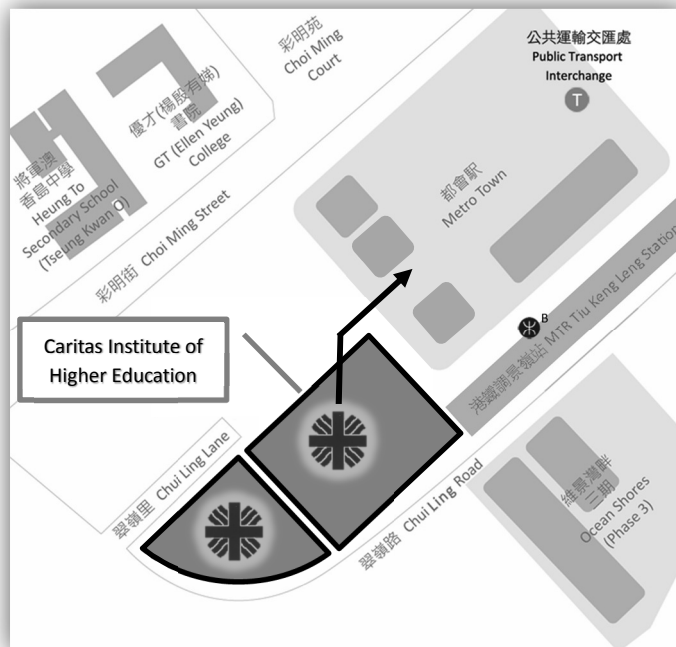
International Conference on Technology in Education 2018
Opening Ceremony

9 Jan 2018 at 2:00 pm

Programme

Officiating Guests

Dr. Kim MAK
President
Caritas Institute of Higher Education

1:50 pm	Guests be seated
2:00 pm	Welcoming Remark
	by Dr. Kim MAK President Caritas Institute of Higher Education
2:05 pm	Opening Address
	by Dr. Kam Cheong LI Programme Co-Chair International Conference on Technology in Education, 2018
2:10 pm	Group Photo
2:15 pm	End of Ceremony

Programme

Day 1: 9 January 2018 (Tuesday)		
Time	**Event**	**Venue**
1:00 pm	Registration	Level 1 Foyer
2:00 pm	Opening Ceremony	A103
2:15 pm	Keynote Session I Using Online Program Management Solutions for Delivering Quality Academic Programmes by Prof. Kai KOONG Chair: Prof. Koon Hung CHAN	A103
3:15 pm	Coffee Break	A320-2 Foyer
3:45 pm	Parallel Paper Presentation 1: Pedagogy, Design, Learning Experience and Learning Engagement in Blended Learning Parallel Paper Presentation 2: Gamification, Virtual Reality and Augmented Reality in Teaching and Learning	A320-1 A320-2
5:45 pm	End of Day 1 Programme	

Day 2: 10 January 2018 (Wednesday)		
Time	**Event**	**Venue**
8:30 am	Registration	Level 1 Foyer
9:00 am	Keynote Session II: Deploying Peer-learning Community as the Pedagogy: Critical Success Factors for Bangkok Metropolitan Administration' Schools by Prof. Kongkiti PHUSAVAT Chair: Prof. Philips WANG	A103
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10:30 am	Parallel Paper Presentation 3: Mobile Learning and Ubiquitous Learning	A320-1
	Parallel Paper Presentation 4: Issues in E-Learning: Environment, Assessment, Evaluation and Learning Analytics	A320-2
12:30 pm	Lunch	A312
2:00 pm	Keynote Session III: Learning Behavior and Interactive Pattern Analysis - Methodologies, Tools and Practices by Prof. Gwo-Jen HWANG Chair: Dr. Jeanne LAM	A103
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3:30 pm	Parallel Paper Presentation 5: Blended Learning in Practice	A320-1
	Parallel Paper Presentation 6: Flipped Classroom, Future Classroom and Using Social Media in Teaching and Learning	A320-2
5:30 pm	End of Day 2 Programme	
6:00 pm	Conference Banquet	Ho Yin Seafood Restaurant

Day 3: 11 January 2018 (Thursday)		
Time	**Event**	**Venue**
8:30 am	Registration	Level 1 Foyer
9:00 am	Parallel Paper Presentation 7: Massive Open Online Courses and Online Educational Resources	A320-1
	Parallel Paper Presentation 8: Learning Systems and Educational Administration through Technology	A320-2
10:30 am	Coffee Break	A320-2 Foyer
11:00 am	Keynote Session IV: Five Principles of MOOC Design and Development: Lessons from Two MOOCs by Prof. Jianli JIAO Chair: Dr. Kam Cheong LI	A103
12:00 nn	Award Presentation	A103
12:15 pm	End of Day 3 Programme	

Parallel Paper Sessions

Parallel Paper Sessions 1 and 2

Day 1: 9 January 2018 (Tuesday)
3:45 pm – 5:45 pm

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Keynote Speakers

Keynote I: Using Online Program Management Solutions for Delivering Quality Academic Programmes

Prof. Kai S. KOONG
Professor and Dean, Andrew F. Brimmer College of Business and Information Sciences, Tuskegee University

Dr. Kai S. Koong is a Professor and Dean of the Andrew F. Brimmer College of Business and Information Science at Tuskegee University. Professor Koong has more than 20 years of experience as an educator and administrator in public and private higher education institutions — including four minority serving institutions.

Prior to joining Tuskegee University, Dr. Koong served on the faculty of the School of Economics and Management at Xidian University (Xi'an, Shaanxi, China) as a Distinguished Professor and a Foreign Expert certified by the Chinese Central Government. In the United States, he previously served on the faculty and as an administrator at the University of Texas Pan American, Southern University at New Orleans, and Dakota State University. His previous experience also includes faculty appointments at Kentucky State University, Mount Olive College and Virginia Commonwealth University. Both the Caritas Institute of Higher Education (soon to be called St. Francis University) in Hong Kong and Xidian University in Xi'an, China have named him an Honorary Professor.

As a result of his research specializations and teaching interests in the areas of e-commerce, energy markets, global information systems, health information technology and labor issues, Professor Koong has published more than 100 manuscripts in peer-refereed journals and books.   He has also presented works at many peer-reviewed conferences. He currently serves as the editor-in-chief for two global peer-refereed journals: the **International Journal of Electronic Healthcare** and the **International Journal of Services and Standards**. He was the featured keynote speaker at the 2015 International Conference on Technology in Education in Hong Kong, the 2017 Information and Communication Technologies in Organizations and Society Conference in Paris and the 2017 Lebanese Conference on Information Systems in Lebanon. Additionally, he has been invited to conduct workshops and seminars at many institutions of higher learning in Southeast Asia and in the United States.

Dr. Koong's numerous accolades for his academic and professional endeavors include the Decision Sciences Institute-Southwest Region's Outstanding Educator of the Year Award (2012), the Province of Shaanxi's (China) Outstanding Foreign Educator Award (2017), and a Senate Resolution in his honor from the Louisiana State Senate (2008). As a result of his mentoring efforts, his students frequently have been honored with awards for their research, research

writing and academic success.

Keynote Abstract

An increasing number of universities are using Online Program Management (OPM) solutions to deliver education programs.   OPM solutions are an integrated suite of online services that support university leaders, faculty, staff and students in the delivery of educational program offerings.   Online Program Management has no boundaries as students from any geographical location can be recruited.   This is a lucrative opportunity for tradition rich and geographically restricted campuses and programs needing accelerated numerical growth to engage.   Solution components are offered in the form of a fully integrated system approach to online program management comprising of core services delivered under the brand of the university partners.   Such services may include, but are not limited to, online enablement, academic services, marketing services, enrollment services, legal compliances (accreditation and multi-state or national certifications) retention services, faculty and other personnel support, program financing, and most recently data science and analytics support.   Typically, Online Program Management companies market their solutions/partnerships as capable of helping universities launch, grow, and sustain quality degree programs within a short time period.   Typically, the costs can range from 45 to 80 percent of tuition revenue generated from student enrollment and the average contract range is 5 to 7 years, depending on the vendors and the array of services selected.

As expected, cases of successful as well as failed partnerships have been reported in the literature and there are many lessons that can be learned from these joint ventures.   Apart from providing sufficient insight about this growing practice in higher education, this keynote addresses strategic, tactical, and operational issues that administrators, faculty, and students must understand when using Online Program Management Solutions to launch, grow, and sustain degree programs.   Specifically, this presentation based on several high profile cases will 1) demonstrate the necessities of having critical success factors and detailed preparations, 2) showcase best practices that have generated revenue, and 3) highlight costly mistakes and consequences that took years to remedy.   University administrators contemplating OPMs as a means of support, faculty members who are developing programs and courses for online delivery, and prospective students looking for quality degree programs online will find this keynote useful and interesting.

Keynote II: Deploying Peer-learning Community as the Pedagogy: Critical Success Factors for Bangkok Metropolitan Administration' Schools

Prof. Kongkiti PHUSAVAT
Professor, Department of Industrial Engineering, Kasetsart University

Dr. Kongkiti Phusavat is a Professor at Department of Industrial Engineering, Kasetsart University in Bangkok, Thailand. Dr. Phusavat is the author of the book- the title of "Productivity Management in an Organization: Measurement and Analysis" and has contributed the chapters to several texts in the areas of process management. Moreover, Dr. Phusavat has published over 90 referred journal articles for the past fifteen years in various academic disciplines. Dr. Phusavat is currently the Editor in Chief of International Journal of Innovation and Learning. Furthermore, Dr. Phusavat is working with Thailand's Board of Trade in two capacities- the Chairman of Education and Skills Committee of Joint Foreign Chamber of Commerce in Thailand and a committee in Thai Chamber of Commerce's Education Committee.

Dr. Phusavat has played a prominent role in the international collaboration in education between Thailand and Finland. For his work with Finnish education, Dr. Phusavat was later awarded the Order of the Lion of Finland with the honor title of Knight First Class in 2015. In addition, Dr. Phusavat was granted the title of Honorary Professor in 2017 from Maria Curie-Skłodowska University, Poland. Dr. Phusavat is a regular examiner for the universities in Australia, Finland and Malaysia. He has frequently given the lectures and speeches at several universities in Australia, Finland, India, Indonesia, Malaysia, Poland, Taiwan ROC, Slovenia, and the U.S.

Finally, Dr. Phusavat earned his master and doctoral degrees from Department of Industrial and Systems Engineering, Virginia Polytechnic Institute and Sate University or Virginia Tech in the U.S. Dr. Phusavat attended Texas Tech University in the U.S for his undergraduate study in Industrial Engineering. His research and work interests include productivity measurement, quality improvement, performance management, acquisition logistics, system design, pedagogical development in basic education, and public-sector reforms.

Keynote Abstract

The study aims to identify the critical success factors for adapting Peer-learning Community (PLC).   PLC represents one of several changes in the pedagogical practices for the secondary-level schools at Bangkok Metropolitan Administration (BMA).   The initial assessment shows that PLC has improved the life skills for the students as well as has raised the level of students' enthusiasm.   The study is based on the observation over the period of 3 years from 2015 until the present.   Three schools under BMA's Department of Education decided to integrate PLC as part of the students' problem-based learning.   The teachers and students from these three schools have used the environment and ecology as the main premise on applying PLC.   This premise represents how students view the environment and ecology nearby their schools and in their communities.   The theme allows the students to learn either how to solve the environmental problems or how to live with their environment in a more sustainable way.   As earlier mentioned, PLC is applied to help strengthen the pedagogy in the environmental and ecological subject.   The success factors in PLC stems from external knowledge to give the actual illustration of PLC, careful planning with student's involvement and the theme for projects or problems for students, the ability to sustain the motivation among teachers and students, use of ICT, and patience and trust.   PLC does not only contribute positively to teachers but also stimulates students in a way that they feel that they have achieved in acquiring these life skills.   Due to the success, these teachers have extended their experiences and are working with ten schools extensively outside Bangkok.

Keynote III: Learning Behavior and Interactive Pattern Analysis - Methodologies, Tools and Practices

Prof. Gwo-Jen HWANG
Chair Professor and Dean, College of Liberal Arts and Social Sciences, National Taiwan University of Science and Technology

Dr. Gwo-Jen Hwang is currently a Chair Professor at the National Taiwan University of Science and Technology. He is also Dean of College of Liberal Arts and Social Sciences at the university. Dr Hwang serves as an editorial board member and a reviewer for more than 30 academic journals of educational technology and e-learning. He has also been the principal investigator of more than 100 research projects funded by Ministry of Science and Technology as well as Ministry of Education in Taiwan. His research interests include mobile and ubiquitous learning, flipped learning, digital game-based learning, and artificial intelligence in education. Dr. Hwang has published more than 550 academic papers, including more than 200 journal papers and 300 conference papers. Among those publications, more than 150 papers are published in SSCI journals. Owing to the reputation in academic research and innovative inventions in e-learning, he received the annual most Outstanding Researcher Award from the Ministry of Science and Technology of Taiwan in the years of 2007, 2010 and 2013. Moreover, in 2016, he was announced by Times Higher Education as being the most prolific and cited researcher in the world in the field of social sciences (https://www.timeshighereducation.com/news/ten-most-prolific-and-most-cited-researchers).

Keynote Abstract

Learning analytics refers to the analysis and interpretation of data related to learners' behaviors, interactive content and learning contexts recorded during learning process as well as their profiles and portfolios. The objective of learning analytics is to provide helpful information to optimize or improve learning designs, learning outcomes and learning environments based on the analysis results. In this talk, Prof. Hwang would review the current states of learning analytics research and the design considerations. To this end, the methodologies and tools for analyzing students' online learning behavioral patterns and interactive patterns are introduced. Several relevant applications are presented to show how the methodologies and tools work. It is expected that this talk can inspire researchers to discover potential research issues of e-learning or blended learning and to apply the methodologies and tools to their studies in the future.

Keynote IV: Five Principles of MOOC Design and Development: Lessons from Two MOOCs

Prof. Jianli JIAO
Professor and Director, Future Education Research Center, South China Normal University

Dr. Jianli Jiao is Professor of Educational Technology and Director of the Future Education Research Center at the School of Information Technology in Education, South China Normal University, Guangzhou, China. He is a pioneer in teaching and learning with the web in mainland China. His research interests span educational technology, blended and online learning, technology-enhanced learning in K12, higher education, and continuing professional education. He has spoken at numerous local, national and international conferences about educational technology, MOOCs, blended and online learning, and published over 10 books, more than 60 articles in refereed journals, and 2100 posts in his own weblog (www.jiaojianli.com) in past 18 years. Currently, he is researching MOOCs, technology-enhanced learning as well as blended learning in K-12 and higher education settings.

Keynote Abstract

The Massive Open Online Course (MOOC) has been the latest disruption in online education and one of the fastest-growing segments of the education system in past ten years. It delivers open educational resources online and hence provides opportunity for people all over the world to learn anything they want to learn, anytime, anywhere. However, although MOOCs are gaining popularity in higher education, very few best practices or research in designing, developing and implementing MOOCs have been reported so far. This status quo makes it difficult for educators, course designers, and university administrators to make decisions around MOOC design and deployment given the lack of references.

Since April of 2016, the speaker and his team have provided K-12 teachers with two MOOCs: "English Teaching and the Internet" and "ICT Teaching Competencies for 21st Century Teachers: Big Five". More than 50,000 learners have registered and participated in these two MOOCs. In the keynote speech, the speaker will report his work on the design, development and implementation of these two MOOCs, and share lessons he and his team learned from them. Based on learner needs, as well as a set of best practices in implementing the courses with a variety of instructional techniques supported with Web 2.0 technologies, he will propose five principles for MOOC developers and instructors. The principles cover aspects of Iterating, Engaging, Peer-coaching, Social, and Mixed.

Abstracts of Papers

Parallel Paper Session 1:
Pedagogy, Learning Experience and Learning Engagement in Blended Learning
Venue: **Room A320-1**
Session Chair: **Prof. Ivan LAI**

In-game Card as Educational Reward (ICER) Moodle Plug-in: A Pilot Study

Rita KUO, Maiga CHANG, Cheng-Li CHEN

Reward plays an important role for engaging students in learning in traditional classroom. The research team has designed a Trading Card Game and uses the cards in the game as educational rewards to make the rewards more attractive to students. To ease and reduce teachers' workload in giving students rewards, the research team designs the In-game Card as Education Reward (ICER) plug-in for Moodle. Teachers are able and only need to pre-define the criteria for awarding students based on their performance in Moodle. Moreover, the research team has conducted a pilot to understand the acceptance that teachers have toward the use of the plug-in in Moodle in a hands-on workshop jointly held in an advanced learning technology conference. The pilot shows that most of the participants believe that rewards can get students motivated in doing learning activities. In addition, participants who have used Moodle before believe that students can easily learn how to use the plug-in.

Clinical Skills Training and Learning in Hybrid Way

Feng QIU

Medical education is not an easy field for using ICT for training and learning, especially training for the clinical skills. In order to explore the ways for training clinical medical talents and to meet the demand of "the minimum basic requirements of global medical education", this presentation focuses on how to use the modern educational technologies (virtual reality, multimedia and network communication) combined with traditional methods for realizing the effective ways for training and learning the clinical knowledge and skills, and discusses how to design a system platform for supporting the clinical training and learning. Some case studies are given.

Empirical Research on Co-construction of Core Practices

Jianglian LI, Xiaodong XU

With the turn away from a predominant focus on specific and necessary teaching knowledge toward teaching practices that entail knowledge and skill in the field of education. More and more researchers are taking up research teaching practices of "efficient" and "core" and its implementation approach. This research adopted empirical research paradigm and paid close attention to the set of teaching knowledge and skills

effective teaching practice in the class, namely core practices. Firstly, the background, history and concept of core practices were introduced; secondly, under the research paradigm of positivism, the positivism research paradigm, researchers made three rounds of surveys to construct core teaching practices that is suitable for domestic education policy and teachers culture through finding -- verbalizing practices by front-line teacher, clustering -- field-dividing practices by expert teacher, defining – identifying practices by teacher educator, decompose and interpret each practice, so identified what teachers should learn and practice in teachers education; finally, researchers put forward the value and deficiencies of this research and future research directions.

Design and Implementation of Blended Learning for the Undergraduate Course "Education and Artificial Intelligence"

Jiyou JIA

For the ambitious aim toward world-class university, Peking University encourages the blended learning of information and communication technology with classroom teaching for undergraduates. This paper introduces the design and implementation of blended learning approach for the teaching of one undergraduate course "Educational and artificial intelligence". Along with the traditional face-to-face classroom instruction including individual presentation, discussion and debate, the instructor used course management system Moodle to deliver course resources such as lecture notes and supplementary video clips, and to manage many kinds of learning activities like quizzes and assignments. One field trip was also organized to enrich the students' hands-on experience. As an ongoing project, the temporary learning progress and performance of the students are analyzed.

Instructional Design of Applied Disciplines based on CSCL and SaaS Teaching Platform - Take the Subject of International Logistics Management as an Example

Shuang WANG

This paper is focused on how to develop more motivating instructional models for applied disciplines in CSCL environments and SaaS teaching platform. Based on case studies and factor analysis in the subject of logistics management, the instructional model which is considered the factors of community learning, process-driven approached, integrated media use, interactive networked learning, flexible learning environments, more challenging and competitive game study, would attract more participants to get better learning performances. Finally, this paper presents an ideal instructional design model based on CSCL-SaaS pedagogical platform as per the results of antecedent analysis. With better instructional design integrated technique tools, CSCL would be more efficient and flexible to learners who is not available for F2F education.

Parallel Paper Session 2:
Gamification, Virtual Reality and Augmented Reality in Teaching and Learning
Venue: Room A320-2
Session Chair: Prof. Chung Keung POON

Game-based Vocabulary Learning in Hong Kong: Students' Perceptions, Attitudes and Expectations of a Game-mediated Vocabulary Learning APP

Lucas KOHNKE, Di ZOU, Fu Lee WANG, Haoran XIE

The presented research discusses students' perceptions, attitudes and expectations of a game-mediated vocabulary app. Throughout the development of the mobile app, continuous focus group interviews with students were held. The collected data were coded and analysed to identify common features or points mentioned by the students. The results showed that students highly value features like the story plot, graphic, vocabulary list and types of definitions for the design of vocabulary learning APPs. Based on these findings, the APP was further improved by adding synonyms, sentence contexts and extended definitions of the words. Our followed-up interviews indicated that students rated the improved version of the APP higher than the preliminary one. Such findings are consistent with Zou's (2016, 2017) arguments that the availability of various aspects of word knowledge are conducive to effective word learning as it promotes greater degree of elaboration on the target vocabulary.

An Effective Way of Learning Liberal Studies via Virtual Reality

Jeff K.T. TANG, Sui Chi KWAN, Anthony KONG, Wai-Man PANG

In recent years, Virtual Reality (VR) has been widely applied in entertainment, gaming and education. In particular to teaching and learning domain, researchers found that VR games could increase the students' concentration and motivation in learning. Not the least, VR is also a good media for presenting abstract concepts and idea in an immersive way (i.e. in a first person viewpoint). In this paper, we implemented a virtual reality paradigm on liberal studies topics. By simulating the context in an immersive virtual reality environment, we found that the proposed method can improve students' concentration and motivation in learning concepts in liberal studies.

Engaging Learners in a Flipped Information Science Course with Gamification: A Quasi-Experimental Study

Biyun HUANG, Khe Foon HEW, Peter WARNING

In educational context, gamification is increasingly being adopted as a pedagogical tool to increase learner engagement and motivation. However, there is still a lack of evidence about the long-term benefits of using gamified interventions in flipped classroom. This study examined the effects of a gamified intervention on student engagement in a 10-week flipped information science course. Prior to the intervention, the authors systematically reviewed the motivation theories that are relevant to game

psychology, and proposed a goal-access-feedback-competition-collaboration (GAFCC) design model to scaffold the invention design. Both quantitative and qualitative date were collected and analyzed to evaluate the impact of gamification. Results showed that the gamified group completed more out-of-class discussion activities than the control group within the expected time. Self-report data (i.e. survey data) indicated that more than half of the respondents in the gamified group felt gamification added fun to this course, and encouraged them to reflect on their learning strategies. This study provided evidence that gamification strategies guided by GAFCC model can enhance students' behavior engagement and motivation in the flipped activities. The implications and limitations of this study, and future trend are discussed as well.

A Virtual Clinical Learning Environment for Nurse Training

Sin-Chun NG, Lap-Kei LEE, Andrew K. LUI, Ka-Fai WONG, Wan-Yee CHAN, Hiu-Hin TAM

Every nursing student is trained to possess certain skill set before they go for the clinical training in a hospital. This paper introduces the use of virtual reality to simulate a hospital ward for nurse training. The equipment in our virtual ward is carefully designed to simulate the equipment in Hong Kong hospital wards. Our virtual ward will provide several demonstrations on common ward operation tasks. Through the interactions provided in the virtual ward, nursing students can understand the ward operation routines in a better way. Our application is expected to reduce inexperienced nursing students' anxiety and make them more familiar with the ward environment, which can then minimize medical error in their real practicum.

Research on Facilitate Teachers' Professional Development through Experts into Classrooms Project

Li ZHAO, Xiaodong XU

In recent years, the realistic teacher education paradigm emphasizes on learning through practice, and learning how to teach through experience and reflection. Practice based teachers' professional development could be learned through three different kinds of experiences, i.e. learning through one's own experience, learning through peers' experience, and learning through experts' experience. Learning through one's own and experts' experience is indispensable, scaffolding through theory and practice, experts would help teachers conduct effective refection and insight. The project of Experts into Classrooms was based on teachers' personal experience, and teachers would learn through practice guidance by both pedagogical professors and expert teachers of each subject, and learn through scientific analysis result provided by classroom observation analysis software.

Parallel Paper Session 3:
Mobile Learning and Ubiquitous Learning
Venue: Room A320-2
Session Chair: Dr. Simon K. S. CHEUNG

Impacts of an Augmented Reality-based Guiding Strategy on Students' Learning Achievement and Motivation in Conducting Scientific Tasks

Shao-Chen CHANG, Gwo-Jen HWANG

In this study, an augmented reality (AR)-based learning approach was proposed for guiding students to complete scientific tasks in the class. The participants were four classes of fifth graders who were divided into an experimental group and a control group. The students in the experimental group used the AR-based approach, while those in the control group learned with the conventional learning mode. From the experimental results, it was found that the AR-based learning mode significantly improved the students' project outcomes and learning motivation in comparisons with the conventional approach in doing scientific tasks.

A Study on the Pattern and Trend of Students' Typical Usage of Mobile Devices in Learning Activities

Simon K.S. CHEUNG

This paper investigates the pattern and trend of university students' typical usage of mobile devices for learning purposes. Based on the surveys conducted to the full-time students at the Open University of Hong Kong in the past 5 years, it is revealed that the majority of students usually use mobile phones for communication using social media whilst less than half usually use mobile phones in reading e-books and doing assignments. Tablet computers are usually used for connecting to learning portals and reading e-books. Notebook computers are still used for conventional usage, such as doing assignment. It is also revealed that the use of tablet computers for doing assignment becomes popular because of the availability of cloud-based storage. The use of mobile phones for connecting to learning portals becomes popular since many mobile apps for learning portals are available. As compared to mobile phones, tablet computers and notebook computers become less popular for communication using social media. The results affirm that the pattern and trend of typical usage depends on not only the nature of the learning activities but also the functional features, limitations and technological development of mobile devices.

The Acceptance of "Flash Class" – Mobile Mini-lessons through WeChat

Ting YANG, Hao ZHONG, Qingmin MOK, Ivan Ka-Wai LAI, Kwan-Keung NG

The aim of this study is to identify the factors that influence the acceptance of "Flash Class" - mobile mini-lessons through WeChat. The empirical results were obtained in a sample of 187 university students in China. The results of PLS analysis indicate that

performance expectancy, effort expectancy, social influence, hedonic motivation, and habit directly affect the acceptance of using "Flash Class" through WeChat for students learning English. The results of multi-group analysis also indicate that gender moderates the effect of effort expectancy on user behavioural intention. This study makes several suggestions to the "Flash Class" developers for improving their designs according to the listed factors in order to satisfy the learners' needs.

Wine Appreciation Apps: Tools for Mobile Learning and Ubiquitous Learning

Kenneth Shiu-Pong NG, Ivan Ka-Wai LAI, Kwan-Keung NG

Although Wine Appreciation Apps (WAA) are aimed for wine enthusiasts to understand how to appreciate and enjoy wines, these apps are very useful for university students, who are studying wine courses, to obtain wine knowledge. However, these apps are not popular as supplementary tools for students to study wines. Therefore, this research aims to identify the factors that influence students' behavioural intention toward using WAA for supplementing their learning in wine courses. The research is based on UTAUT model. According to the conditions of WAA, a new variable 'flexibility' is added. In the previous research, system flexibility has been used for web-based training research on the intention of users, defined as to use the web-based systems anytime and anywhere. 200 valid data were collected by questionnaire survey. Data analysis was performed by using PLS. The results of the study indicate that Performance Expectancy, Effort Expectancy, Social Influence, Facilitating Conditions, and Flexibility are the factors that influence learners' behavioural intention toward using WAA. This research has verified the applicability of UTAUT on studying the mobile learning and ubiquitous learning. This study also provides some recommendations for WAA developers to enhance the design of WAA. It provides a new model for studying the mobile learning and ubiquitous learning.

An Android App for Preparation of Hong Kong Driving Test

Wai-Shing HO, Jacky C. K. CHAN, Yin Chun PUN, Hiu Fung SO, Jeff K. T. TANG, Wai-Man PANG

Nowadays, nearly everyone has a smart phone, especially our youngsters. How educators use smart phones to help students learn would be an ongoing and important topic. In this paper we would like to share our experience in the development of an Android app for the preparation of driving test in Hong Kong. Many existing apps do help potential drivers to acquire knowledge for the written test. However, none of them exploit the power of smart phones, e.g., using of videos and interactivity, to help users on the road test. Thus, we developed this app so that users can have a one-stop portal for them to prepare Hong Kong driving test. Users can revise and test their knowledge for the written test using a question-and-answer based interface.   Moreover, users can our annotated videos or the interactive scenarios to revise how they should handle various situations for the road test. Our app tried to exploit various functionalities of smart phones to help users be better prepared for Hong Kong driving test. Evaluation showed that users were more than satisfied with our interface and recommended our app to their peers.

Computer Game-Based Foreign Language Learning: Its Benefits and Limitations

Blanka KLIMOVA, Jaroslav KACETL

At present, young people cannot imagine their life without the use of information and communication technologies (ICT). Therefore it is no wonder that the use of ICT in school education is as normal as the use of textbooks. The purpose of this article is to explore the efficacy of computer games in foreign language learning and highlights its benefits and limitations. The authors conducted a literature review of available studies focused on the research studies in the world's acknowledged databases Web of Science, Scopus, and Science Direct in the period of 2010-2016. The findings indicate that computer game-based foreign language learning seems to be especially effective in the vocabulary acquisition. They obviously generate many benefits such as exposure to the target language, increased engagement, or enhancement of learners' involvement in communication. On the contrary, there are certain limitations such as the fact that high interactivity may hinder the vocabulary acquisition and learning, not all games are useful for language learning, or a lack of knowledge about computer games among language teachers and institutions hinders their proper use. Thus, in order to prove the effectiveness of the use of computer game-based foreign language learning, more longitudinal randomized control studies with larger subject samples are needed in this field.

Parallel Paper Session 4:
Issues in E-Learning: Environment, Assessment and Learning Analytics
Venue: Room A320-2
Session Chair: Prof. Philips WANG

Preparing for Examination: an Extended Implementation of a Generator that Uses the Same Questions to Form Tests

Doru Anastasiu POPESCU, Daniel NIJLOVEANU, Nicolae BOLD

The preparation for an exam has a multitude of perspectives. Assessment in learning can be made using various methods and techniques. One of the most widespread methods of assessing the progress of learners is the multiple-choice test. In this paper, we present a web implementation of a generator of tests which uses same questions that are stored in a certain form (generally referred as the database of questions), an extension of a previously-presented implementation of the same system. The main difference and the novelty brought to the system is that the questions have a larger number of choices than a standard number chosen by a user, from which will be randomly chosen a fixed number of choices, the correct one(s) being amongst the chosen ones. Also, in order to avoid situations of learning based on the choice letter (a, b, c etc.), the variants will be shuffled every time, their position being changed whether the question is generated once more. One of the characteristics that differentiates it from other test generators is the distinctive environment that was created for, the generator being built for the particular context of the learning used within the studied academic environment.

The Evolution of Continuing Professional Development in the Accountancy Profession in Hong Kong: Towards an E-learning Mode

Billy Tak-Ming WONG, Kam Cheong LI, Beryl Yuen-Yee WONG, Joseph Shiu-Wing YAU

Continuing professional development (CPD) is ongoing learning and development in order to keep abreast of the advances and changes in a profession and perform competently. For accountancy professionals, CPD is needed throughout their careers. To cater for their needs in Hong Kong in terms of flexibility in time and place, the e-learning mode has become popular and is the future trend in CPD. This paper reviews the modes of delivery of CPD programmes for the accountancy profession in Hong Kong. It examines the programmes which have adopted diverse ways to support accountants to maintain and enhance their technical knowledge and professional skills. This article analyses the features of e-learning for the CPD programmes. They offer benefits for the participants such as self-controlled learning, self-assessment of understanding, and social learning with the online community of peers and colleagues. However, the e-learning channels may have limitations in supporting high-level training. Based on the results of this study, the future trends in CPD for the accountancy profession are discussed in relation to the potential of the latest advances in technology-enhanced learning.

Learning Analytics in Higher Education Institutions in Asia

Kam Cheong LI, Carmen Jiawen YE, Billy Tak-Ming WONG

This paper reports a study on the development of learning analytics in higher education in Asia. Semi-structured interviews were conducted with eight senior managers or senior academics from various tertiary institutions in Asia. The participants were asked about their institutions' position on learning analytics, the progress in its implementation, factors leading to effective implementation, and challenges encountered, if any. The results showed that in those institutions where learning analytics has been implemented, it aimed mainly at enhancing student retention, pedagogy and student learning experience. Its effective implementation relies on support from senior management, and taking students' views into account in decision-making. The participants' institutions encountered difficulties due to teachers' and students' concerns, such as the increased workload and data privacy, as well as technical issues in data collection, processing and analysis. In short, though starting late in Asia, learning analytics has been gradually gaining attention and is being implemented. The future directions of research and practices in learning analytics are also discussed.

Implementation of a Web-based Course Evaluation in Clinical School – A Pilot Study

Xuan HE

This paper describes the web-based evaluation for obtaining course, instructor assessment data. Previously, the Peking University Third School used overall scores assessment forms that students completed during class at the end of each semester. Low response rates and clinician-educators cannot receive specific feedback from students led to the development of an online platform with new assessment forms. Then our clinical school conducted a pilot study of this process, presents the quantitative and qualitative results of the pilot study, and summarizes the survey that asked students their perceptions regarding paper course evaluation and online course evaluation.

Using Tablet Computers in Robot Class Promotes Formative Assessment: An Experience from A Primary School in Beijing

Sijie MA, Hui REN

With the development of education informatization, tablet computers are popularized in primary and secondary schools. Since there are many ways to use tablet computers for teaching and learning, researchers have studied the application of tablet computers in all disciplines and the effectiveness. This study was based on classroom observations and an interview with an information and technology teacher in order to see how tablet computers were actually used in class. The teacher shared her teaching experience from a primary school in Beijing. The school has introduced iPad and LEGO® Education WeDo 2.0 Core Set with its software into fourth-grade robot classes for more than one year. A group of three or four students share an iPad and the LEGO set during the class. With

the software on iPad, they can record their learning process by multimedia, including texts, pictures, photos and videos. The inquiry activities of problem discovering and solving are recorded. Besides, experiences of trying or failing are required to be mentioned for reflection. Students also use tablet computers to share and present their learning outcomes to the class. As for teachers, they help students to record their learning better by questioning techniques. With students' records, teachers would have a more comprehensive understanding of their learning progress. In this way, the interviewed teacher thinks that using tablet computers in robot class not only supports collaborative learning, but also promotes students' formative assessment.

Personalizing the Blended Learning Experience in Vocational Education

Bo Luen LEE

Today, most in the education community would agree that information technology is being applied in online learning environment to improve student performance for more effective learning.   This study first investigates the impacts of academic self-concept, blended learning approaches and their effect on academic achievement among Hong Kong Chinese tertiary students.   The participants were 100 first year full-time Hong Kong Chinese students studying in a postsecondary vocational institution.   The results of a post-course survey of these students are used to describe their learning experiences and attitude towards blended learning. It is predicted that some determinants liked academic self-concept and blended learning approaches may have direct effects on students' academic achievement over the first semester in their first year's study.

In addition, how personalized blended learning occurred in vocational education would be discussed in the present study.   When personalized learning is considered in local vocational educational context, it indicates student-centered learning approach designed to help all students including good or poor performers in HKDSE that will prepare them for a career after their graduation in vocational education programs.

Finally, it helped to understand whether personalized blended learning could contribute to student performance in vocational education.   By observing the same group of 100 fresh first year full-time students' study behavior on business courses, it may help to explore the key issues that impact students, teachers and schools on personalized blended learning.   In short, what is the most effective personalized blended learning design in vocational education?   This study would suggest some critical components for personalized blended learning and ways for both face-to-face and modern instructional design to back it up.

Parallel Paper Session 5:
Blended Learning in Practice: Language Learning
Venue: Room A320-1
Session Chair: Dr. Kam Cheong LI

A Study in Introducing Adolescent Students to Simple Programming Skills using an Online Games Editor

Theodor WYELD, Minoru NAKAYAM

There is a movement in early childhood education towards teaching children how to code. Learning to code in early education is not a new idea. It has been promoted in the curriculum at various times since the 1980s. It is only very recently, however, that the need to know how to code has become critical. In particular, university-age students feel the need to know how to code to achieve their goals of employment after graduation. Many have not had the benefit of learning to code from an early age. But, post-graduation jobs increasingly require some understanding of how programs work and developed. This has accelerated since the rise of technology hubs around the world, such as Silicon Valley in the USA. Since the early 2000s there has been an increasing demand for graduation students with coding skills. Graduating students have attempted to meet this demand by teaching themselves some rudimentary coding skills, such as what is needed for web apps. But, many report that they struggle to get past the basics. While they may understand some of the core concepts, they find it difficult to put them into practice and are unable to write their own programs from scratch. On the other hand, employers need programmers or project managers that understand problem solving and how to translate solutions into code. Hence, graduating students need to focus also on this aspect rather than just which language to learn. Indeed, languages fall into and out of favour depending on shifts in technology over time. Therefore, understanding code structure may be more important than a deep knowledge of code syntax. HTML and JavaScript are often promoted as a good place for the late learner to start. They are logical, easy to learn, dynamic languages that sit on top of a main language. They are also often cited in ads for jobs in the technology industry. As such, this project used HTML and JavaScript to introduce students to the core structure of coding. It used the approach that leaning to code should be both fun and leverage existing interests. An online 2D mobile games editor was developed for groups of students to learn how to build a small app for their mobile device. In so doing, they were interacting directly with the code base and creating solutions to problems. Groups evaluated each other's games for playability and functionality. This shifted the focus from code learning to outcomes. In the process, their anxieties about learning to code were somewhat relieved. This is evidenced by their responses to a before and after survey. The surveys show a shift in sentiment from a fear of coding to a better understanding of the potential of coding to produce creative outcomes. However, despite the shift in sentiment across the project, there was still too much reliance on external help – students were not able to initiate programming without some assistance. This suggests, along with the method described in this paper, other methods should also be explored.

Effectiveness of Multimedia Annotations on Vocabulary Acquisition: The Technique Feature Analysis on Trial

Di ZOU, Fu Lee WANG, Reggie KWAN, Haoran XIE

From the perspective of Nation and Webb's (2011) technique feature analysis, this research examines the effects of multimedia annotations on vocabulary acquisition, comparing it to other frequently employed word learning strategies. One hundred and twenty undergraduate students participated in the study and were randomly assigned to four groups to complete four multimedia-enhanced word learning tasks. The post-test scores showed that the tasks of reading comprehension with pictorial annotations and doing cloze-exercises with textual annotations were similarly effective. It is also found that cloze-exercises with pictorial annotations were similarly effective as sentence-writing with textual annotations. Such results are consistent with the checklist for technique feature analysis, indicating that this framework is reliable in evaluating and predicting task effectiveness. It also shows that the involvement of imaging in an activity is conducive to word learning, more integration of pictorial annotations in language learning materials is therefore suggested.

A Mind-Set Changing Project: Preparing Vocational and Professional Education and Training (VPET) Teachers with Technology Enhanced Learning (TEL) and E-pedagogies

Ricky Yuk-kwan NG, Rechell Yee-shun LAM

Vocational and Professional Education and Training (VPET) emphasises in-class hands on practice and face-to-face theory delivery, e-learning and e-pedagogies are less common. The resistance normally rises from the argument of VPET's focuses on trade-specific hands on skills in authentic workplaces and the motto of 'practice makes perfect'. Nonetheless, with students' changing learning preferences and behaviours, the high accessibility of online and web-based information; VPET teachers are now confronting with challenges that trade-specific knowledge and demonstration of skills are widely available on internet and not solely transmitted by teachers. Furthermore, students' motivation and engagement in learning tasks are also issues that need to be addressed. In response, a mind-set changing teacher training project was introduced and this paper shares the empirical experience on nurturing VPET teachers' technology enhanced learning (TEL) and e-pedagogies competency so as to prepare them to cope with students' learning preferences and behaviours for teaching effectiveness. These series of training and engagement activities were carried out in four stages 1) Conceptualisation; 2) Familiarisation; 3) Acceptance and 4) Action. These training and activities enable teachers to adopt TEL and e-pedagogies in their daily teaching. Results of the project indicated that a well-planned scheme that aligned with the institution's strategy with gradual increment of intensity of e-elements infused in various training events allowed ease of acceptance and behavioural changes. Additionally, synergy from senior management, concurrent schemes, projects and awards to promote and encourage teachers to adopt TEL and e-pedagogies for innovative learning and teaching is also a critical factor in the teacher training scheme.

Automatic Correction of Definite Article Redundancy Error in the English Compositions of College Students

Lei WANG, Ting WANG

The usage of articles involves complex grammatical, semantic and pragmatic knowledge and experience and it will become a difficult task to master even for a native English speaker. In addition to its complexity, English learners in China encounter confusion when using articles for their absence in Chinese language. In our 100,000-word corpus of about 500 English compositions by college students, article errors account for more than 50% of total errors and the definite article error, redundancy in particular, is obvious. Therefore, it is necessary to analyze and summarize these errors and explore ways to make improvement. If teachers' experience of marking these compositions can be put into the computer and the errors found are to be recognized automatically, the quality and efficiency of marking compositions will be improved.

Scholars have conducted research on the errors made by language learners in writing both theoretically and practically, and they have made considerable breakthroughs in Second Language Acquisition (SLA) with respect of writing. The learners' use of articles in English writing display a certain pattern with factors such as the influence from mother language, personal idiosyncrasy or common misunderstanding. Thus it is feasible to judge whether an article is used correctly in a certain context on a rule basis. This paper adopts a rule-based method, which lets the computer learn how to use articles from corpus and recognize the Definite Article Redundancy Errors (DAREs) committed by students in their English compositions with the help of both grammatical and contextual information. The rules obtained from corpus are deduced from authentic examples and possess authority and accuracy. The system also allows teachers to add or alter these rules flexibly by either examining the actual cases or updating their professional knowledge as they wish.

Teaching College English to Large Classes with Multi-mode Blended Learning

Zexuan CHEN

Considering the fact that mainland China is struggling with large language classes, generating poor learning outcomes, a multi-mode blended learning approach was developed to look for a solution to this status quo. An empirical study was conducted to test out the teaching effect of the developed model. Researcher of the present study taught College English to four large classes (80-100 students/class) with the multi-mode blended learning approach. Empirical results from a one-semester (16 weeks) teaching experiment indicate that the multi-mode blended learning approach brings with large classes five benefits: improved learning outcomes in terms of listening, speaking, reading, writing, and translating competence.

The Analysis of Timeout Behaviors in Online Tests

Huixiao LE, Jiyou JIA

Based on a dataset of more than 7.4 million records of learners' doing online tests activity in an online platform, and the concept of Online Learning Activity Index (OLAI), this paper analyzed the Timeout Behaviors in online tests and attempts to answer the following two questions: what are the characteristics of those online learners with timeout behaviors in online tests? Does the amount of questions in a test influence learners' timeout behaviors? Descriptive statistics and correlation analysis are conducted to find the general pattern underneath the cases.

Parallel Paper Session 6:
Flipped Classroom and Using Social Media in Teaching and Learning
Venue: Room A320-2
Session Chair: Dr. Jeanne LAM

Effects of Integrating a Concept Mapping-based Summarization Strategy into Flipped learning on Students' Learning Performances in Reading Comprehension

Gwo-Jen HWANG, Mei-Rong Alice CHEN, Meng-Hsuan LIN, Han-Yu SUNG

The capability of reading comprehension is one of the essential skills for learning different topics and has been recognized as a challenging objective in Chinese curriculum. In this study, a concept mapping-based summarization strategy was incorporated into flipped learning for improving students' reading comprehension. The participants of the study were 45 fifth graders from two Mandarin Chinese classes at an elementary school in Taiwan. All of the students did not have previous flipped-learning experience. A pre-test and post-test of reading comprehension as well as pre- and post- questionnaires for measuring the students' reading motivation, self-efficacy, and cognitive load were conducted. The experimental results show that the proposed approach not only improved the students' summarization skills, but also highly-motivated students showed better self-efficacy and minimize cognitive load. Consequently, the study concluded that employing the concept mapping with summarization strategy into flipped learning and students' summarization ability are directly related, but it may be indirectly related to reading comprehension.

Can Entrustable Professional Activities Drive Learning: What We Can Learn from the Jesuits

Spencer H. L. WAN

Entrustable Professional Activities (EPAs) has recently been the buzzword in medical education and in the realm of the healthcare professions. Medical professional bodies and medical educators worldwide envision the development of EPAs as a promising approach to overcome the difficulties in assessing their trainee's competencies in a work-integrated learning (WIL) clinical environment. Albeit numerous research has been done on how EPAs can be used as a stopwatch type of competencies assessment method helping to ensure medical trainees are judged to be the best based on well-tested as well as agreed-upon meaningful standards, the prime and essential question of how best EPAs could drive students' daily self-directed learning for their continuous professional development of expertise remains largely unanswered. Amid this leading-edge development in the competency-based medical education (CBME) along with the important role healthcare has to play in the 21st century's global society, there is an increasing need to understand current processes of change and the impact this will have on preparing medical professionals and on healthcare in the coming future. With this endeavour in mind, this paper provides an update on the progress of this gradually establishing approach to competency-based medical education, identifies the essence of this emerging novel workplace-based assessment method in relations to a review of

the contemporary competency-based medical education, and finally explores how Jesuit's wisdom could be used in furthering EPAs' potential impact on attainment of medical education's mission.

Perceived Online Learning Environment and Students' Learning Performance in Higher Education: Mediating Role of Student Engagement

Zhang TAO, Bin ZHANG, Ivan Ka-wai LAI

Colleges and universities have focused on increasing the number of online courses and programs offered to remove the obstacles in terms of time and space. Partial Least Squares Structural Equation Modeling (SEM) is used to explore the relationships among the parameters. The results of this study indicate a positive relationship between perceived online learning environment and university students' learning performance mediated by students' engagement. Therefore, educators should develop online student engagement strategies in order to increase online student engagement. Furthermore, for improving online students' learning performance, educators should invest their resources to develop a good online learning environment.

Designing and Evaluating Postgraduate Courses Based on a 5E-Flipped Classroom Model: A Two-case Mixed-method Study

Khe Foon HEW, Yanzhen ZHU, Chung Kwan LO

In recent years, the flipped classroom approach has attracted much attention from educators around the world. However, we still understand little about how we can structure the pre-class and in-class activities in a coherent way that could engage students. The purpose of this study is to examine the use of the 5-E instructional model in order to foster students' active learning in a flipped learning environment. A two-case mixed-method study was conducted, involving the teachers and students from two different postgraduate courses *Engaging Adult Learners* and *E-Learning Strategies*. Both the quantitative and qualitative data collection methods such as student survey and interviews were conducted. The results suggested that 92% of participant strongly agreed or agreed that flipped learning is more engaging than traditional classroom instruction, and 81% reported that the flipped classroom approach gave them more time to discuss issues or solve problems. Interview data suggested three main reasons for the overall positive student perception of flipped classroom's impact on their learning: promoting more in-depth learning, cultivating self-directed learning, and improving peer communication and collaboration.

Study on the Future Classroom

Ji Ping ZHANG

No classroom change, no educational reform or innovation! Educational reform and talent cultivation need us to transform or change our traditional classroom. Studying on

the future classroom, it will well contribute to deep understand the classroom and how to redesign and implement the classroom. This presentation will discuss why we need to focus on the classroom, what we need to change and what we have done, and some successful cases in mainland will be presented.

Instructional Design of Multimedia Courseware Design and Production Based on Flipped Classroom in Universities - Take the Trigger as an Example

Qian DONG

Under the flipped classroom teaching mode, students watch micro video resources to learn autonomously before class, cooperate with each other by sharing doubts and exchanging ideas for a better understanding of knowledge, rethink and evaluate themselves, share achievements after class so as to achieve meaningful learning. "Multimedia courseware design and production" course is practical and widely used as a professional course for students majoring in educational technology in universities. In this paper, we take the use of PPT in the trigger as an example, based on the flipped classroom teaching mode of teaching design. We hope to enhance the students' autonomous learning ability, cultivate their cooperative spirit of inquiry.

Parallel Paper Session 7:
Massive Open Online Courses and Online Educational Resources
Venue: Room A320-1
Session Chair: Dr. Steven NG

An Interactive E-book Approach to Improve Students' Performances in Learning Classical Chinese Articles

Gwo-Jen HWANG, Han-Yu SUNG, Wen-Shiou LIOU

Learning the ancient articles written in classical Chinese has been identified as being an important and challenging issue for the students in globe Chinese. The articles not only represent the literature in ancient China, but also contain the wisdom and philosophy of those ancient masters. However, in traditional instructions, it is difficult to express the spirit of this philosophy; therefore, many students have encountered great difficulties in learning the course. To cope with this problem, an interactive e-book system has been developed in this study to interpret the ancient articles in an interactive way. A quasi experiment was conducted to evaluate the performance of the proposed approach. The participants were 38 fifth graders from 2 classes in an elementary school located in northern Taiwan and they were divided into the experimental group and the control group. The experimental group used an interactive e-book learning mode to learn the articles in classical Chinese, while the control group used a conventional technology-enhanced teaching mode. The results showed that adopting the interactive e-book teaching mode can promote students' learning achievement and motivation in the classical Chinese course.

An Exploration on the Regional Sharing Mechanism for High-quality Online Teaching Resources of Colleges and Universities in the Internet Era

Xiao-yan SU, Cong-dong LI, Ivan Ka-wai LAI

With the proposing of "Internet + " strategy, more and more high quality online teaching resources will be constantly developed and used at colleges and universities which are significant for solving the imbalance in high-quality teaching resources among universities. However, the lack of resource sharing mechanism seriously restricts the effectiveness of resource sharing. Based on analysis of the status quo of high quality online teaching resources sharing, this paper puts forward 5 types of resource sharing mechanism including coordination mechanism, motivation mechanism, investment mechanism, payment mechanism and evaluation mechanism to deal with this dilemma.

Integration of MOOCs with Flipped Classroom Teaching: An Empirical Study of Tourism English Course

Weiyuan ZHANG, Qingsong XIE

The purpose of this study was to explore the effectiveness of teaching mode which integrated MOOCs with flipped classroom in vocational courses. The methods of quasi

experimental research, questionnaire survey and semi-structured interview were employed. 102 students in the vocational education college were selected and assigned randomly into experimental class and control class. It was found from this study that the students in experimental class made better academic achievements and were more satisfied with the course and teaching methods to some extent. Furthermore, there were statistically significant differences in the aspects of social interaction, cooperation, computer operation, and the use of the Internet, in which the students in experimental class rated much higher than those of the control class. The results suggest that the teaching mode of integrating MOOCs with flipped classroom is worthy of practice and popularization, but provision of teachers' on-job training are requested.

The Effectiveness of MOOC for Teacher Professional Development: Requirement, Design and Implement

Shufang LUO

Teacher professional development (TPD) is always a big issue in educational field. With the rapid changes in education such as educational reforms, new curriculum standards, emerging technologies and new teaching or learning model, there is a great demand for teachers to update their own knowledge, skills, and practices through continuous professional development. Based on the characteristics of massive open online courses (MOOC) such as large-scale, easy to access and support of collaboration, we tried to think about the potential of MOOC for teachers' professional development and offered kinds of courses for teachers on the MOOC platform. This paper explored the effectiveness of MOOC for teacher professional development. In particular, we would conduct the analysis of the course requirements, course design, course implement through the pre-course questionnaire, post-course questionnaire, discussion forums and interviews of the course designers, course managers and learners. This strategy of analysis has sought to review the data from the following five perspectives: learner compliance with the design; achievement of design goals; achievement of learner goals; measurement against established criteria; measurement against emerging learner-defined criteria. Finally, we would discuss why and how MOOCs can promote a better teacher professional development. First, using MOOC for teacher professional development can bring several "efficiency" benefits. Second, the outcome of using MOOC for professional development is the "quality" issue.

Parallel Paper Session 8:
Learning Systems and Educational Administration through Technology
Venue: Room A320-2
Session Chair: Dr. Will MA

An Application of NFC Technology on Class Attendance Systems

Sasivimon SUKAPHAT, Wachirawit CHAIPUVAPHAT, Suphisra KETSUTHI, Sathinee PAISOPA, Sirinoot TEANRUNGROJ

Currently, the class attendance checking process of Computer Science program, Srinakharinwirot University still performs manually by calling student's name one by one. This process is impractical and such a waste of time especially in a large class. Therefore, we aim to present an alternative way for the class attendance checking by applying the wireless technology in smartphone, NFC, to help the lecturers manage their class at ease. The proposed system consisted of two modules: the NFC module and the web module. The NFC module performs on the mobile site which transfers the student's personal data from the student's smartphone to the lecturer's smartphone by tapping both phones to each other. The web module performs on the server site which contains the class attendance database. Moreover, the web module also provides class attendance application which will be used for some students who do not have NFC supported in their smartphones. All class attendant information can be represented on the web application. The proposed system will help the lecturers to reduce their time spending in class attendance process and this system can be in the other faculties.

Detecting Emotions in Students' Generated Content: An Evaluation of EmoTect System

Emmanuel Awuni KOLOG

In this paper, an e-counselling system for automatic detection of emotion in text is evaluated by comparing with two of text classifiers implemented in WEKA machine learning software. A support vector machine classifier was used for the development of the e-counselling system, hence we compared the performance of the e-counselling system' classifier with the WEKA's Multinomial naïve-Bayes and J48 decision tree classifiers. While this paper is geared towards ascertaining the efficacy of the various classifiers for classifying emotions in learners' generated text content, this paper also aims to ascertain the performance of the e-counselling system for complementing decision making concerning students in counselling delivery. In building the system, an annotated students' life story corpus was developed and used for the experiment. Therefore, 85% of the total instances of the life stories was used as training data while the remaining 15% was used as test data with sample instances of real-time data from students' textual submission through the e-counselling system. The results of the experiment show that the SVM, implemented in our proposed e-counselling system, is superior over the MNB and J48 classifiers.

The Acceptance of Using Open-Source Learning Platform (Moodle) for Learning in Hong Kong's Higher Education

Ching-Hong LUK, Kwan-Keung NG, Wai-Ming LAM

Using online learning platforms for teaching and learning is common in this generation and development is driving innovation. The advances of information technology have significantly changed ways of teaching and learning in higher education. Online learning platforms take many forms depending on a particular application. In addition to Blackboard, Moodle is one of the most popular online learning platforms nowadays worldwide. Moodle is a learning platform designed to provide educators, administrators and learners with a single robust, secure and integrated system to create personalized learning environments. In addition, the acceptance of the students to the online learning platform will affect the higher education information and the construction of modernization of education in a certain extent. A number of studies have indicated that the successful pedagogical use of technology depends on students' attitudes and acceptance towards technology. Therefore, the prediction of students' attitude and acceptance towards online learning platform is crucial for the teaching and learning quality in education. This study is to investigate the acceptance of using online learning platform, i.e. Moodle by using the augmented version of TAM model (A-TAM) to investigate their behavioral intention and use behavior of Moodle for their learning, as Moodle is one of the most common online learning platform in Hong Kong and there are a significant proportion of Institutes adopting Moodle in Hong Kong higher education. In other words, this study investigates how perceived usefulness, perceived ease of use, attitude towards behavior and subjective norm affect behavioral intention so as to actual behavior of using Moodle in Hong Kong higher education.

Online eLearning System for Music Jamming

Joseph FONG, Kenneth WONG

Nowadays, with Internet people listening to music by using YouTube becomes everyday life. Moreover, various websites offer music tutorial sessions to teach people play music. For example, there are video for musicians show others how to play musical instruments for songs. Nevertheless, after people have learnt the techniques to play music, there is not yet an easy way for them to practice what they learnt by jamming music with each other. As a result, they cannot evaluate their learning knowledge and skill. This paper aims to offer a method for music players jam music through Internet and mobile App with each other in order to improve their musical skill. Our approach is to use an online music mixer to mix multiple players music record together on the Internet. For example, user A records a music session A playing drum, and user B records another music session B playing guitar. Then user C can use an online music mixer to mix session A and session B together into a new session C. This session C is the result of jamming session A and session B together to become a complete song of by itself. The result is like user A and user B jamming music together on the Internet. Also, other people can learn music by listening sessions A, B and C to appreciate each component of the song played by different musical instruments. The benefit is that people can learn music by jamming songs together on the Internet even though they are physically in different locations.

Notes