Proceedings
of the
7th International Conference
on eLearning

The Chinese University of Hong Kong

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Edited by

Paul Lam

The Chinese University of Hong Kong
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Preface

This book represents the Proceedings of the 6th International Conference on e-Learning.

The host university this year is The Chinese University of Hong Kong (CUHK), and it is my pleasure to have the role of Programme Chair, with colleague Dr Victor Lee from The Hong Kong Management Association, who was Director of the School of Continuing and Professional Studies at CUHK until January 2012, as Conference Chair.

The opening keynote address is given by Dr Gajaraj Dhanarajan from the Institute for Research and Innovation at Wawasan Open University in Penang, Malaysia. The topic of the presentation is “Open Educational Resources: A more Inclusive E-Learning Environment”. The second day will be opened by Dr David M Kennedy from the Teaching and Learning Centre (TLC), Lingnan University, Hong Kong, China. David will address the challenges of engaging students and staff in the effective use of mobile devices in higher education.

ICEL is a well-established platform for bringing together a wide range of stakeholders involved with the challenges of e-Learning in a rapidly changing global society, including academics, innovators and practitioners interested in benefitting from, using and contributing to current research as well as professionals working in the private and public sector.

ICEL provides a space for the rigorous and stimulating sharing of ideas about e-Learning today. It is an opportunity for the broader e-Learning community to meet and for overlapping communities of practitioners to join the lively e-Learning conversations. The range of papers will ensure an interesting two days.

With an initial submission of 187 abstracts, after the double blind, peer review process there are 59 academic papers, 3 PhD papers, 1 non-academic paper and 5 work-in-progress papers published in these Conference Proceedings. These papers represent research from Australia, Austria, Canada, China, Cyprus, Czech Republic, Denmark, Egypt, Germany, Greece, Hong Kong, India, Indonesia, Iran, Israel, Japan, Latvia, Malaysia, The Netherlands, New Zealand, Nigeria, Norway, Philippines, Puerto Rico, Romania,
South Africa, Singapore, South Korea, Swaziland, Taiwan, Turkey, UK, USA and Zimbabwe.

I hope that you have a stimulating and enjoyable conference.

Paul Lam
Programme Chair
Centre for Learning Enhancement and Research
The Chinese University of Hong Kong
June 2012
Conference Committee

Conference Executive:
Victor Lee, School of Continuing and Professional Studies, The Chinese University of Hong Kong, Hong Kong, China
Paul Lam, Centre for Learning Enhancement And Research, The Chinese University of Hong Kong, Hong Kong, China
Professor Joseph Fong, City University of Hong Kong, Hong Kong, China,
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Biographies

Conference Chair

Dr Victor Lee received his PhD from the University of London. He was a Fulbright Scholar at Columbia University. From December 1999 to January 2012, he was Director, School of Continuing and Professional Studies at The Chinese University of Hong Kong. From June 1991 to December 1999, he was a programme leader and an associate professor in applied computing and management respectively at The Open University of Hong Kong (OUHK). At OUHK, he successfully developed and launched a highly regarded MBA programme. In the early 1990s, he taught at the State University of New York, The American University of Paris and the University of East Asia in Macau. He joined The Hong Kong Management Association in January 2012 as Executive Director. He is an Honorary Professor of Management at Tianjin University of Commerce and a Visiting Professor at the Beijing Normal University’s MBA Programme in China, and is an Honorary Fellow of the Hong Kong Institute of Marketing. Locally he has been a member of the Manpower Development Committee of the Hong Kong SAR Government since 2007; and internationally he was appointed by the Changwon City Government of The Republic of Korea as a member of the Changwon City’s International Advisory Council in 2010. He is widely published in peer reviewed journals.

Programme Chair

Paul Lam is an Assistant Professor at the Centre for Learning Enhancement And Research (CLEAR) at The Chinese University of Hong Kong (CUHK). He involves heavily in many teaching and learning research studies and services such as the use of technology for teaching and learning, promotion of the outcomes-based approach to learning, and the enhancement of teaching and learning spaces. Paul Lam’s research interests range widely across several key aspects of teaching and learning, including web-supported teaching and learning, mobile learning, case-based teaching and
learning, learners’ characteristics, self and peer assessment, teaching and learning spaces, and English language teaching (ELT).

**Keynote Speakers**

**Prof Dr Gajaraj Dhanarajan** presently serves as the Hon. Director of the Institute for Research and Innovation at Wawasan Open University, Penang, Malaysia. His previous appointments include being the Founding Vice Chancellor of Wawasan Open University, the President of Commonwealth of Learning and Director of the Open Learning Institute now known as The Open University Hong Kong. Recently he was appointed to the Council of the United Nations University by the Secretary General. He holds the B.Sc. and M.Sc. degrees from the University of Madras, a D.I.C. and an M.Sc. from the Imperial College of the University of London and a Ph.D. in Biology from the University of Aston in Birmingham, U.K. As a life-long advocate on Open and Distance Learning, he has contributed to global discussion on the subject and further, associated with the work of international development agencies.

**Mini Track Chairs**

**Chee-Keong Chong** is a lecturer in the Faculty of Business & Finance, Universiti Tunku Abdul Rahman (UTAR), Malaysia. He lectures Quantitative Techniques to business, accounting and finance students. He has thirty over years of experience in teaching Mathematics and Physics in Malaysian secondary school. He joined UTAR in 2009. He graduated with B.Sc (Hons.) in Mathematics from Universiti Sains Malaysia, M.Sc (Management) from Universiti Utara Malaysia and M.IT from Multimedia University Malaysia. His research interest is on the using of technology in the teaching & learning of Mathematics.

**Susan Crighton** is an associate professor at UBC. Her research explores appropriate technologies for challenging contexts, typically found in developing countries. She has worked in Bhutan, East Africa, and Pakistan. She is the
founder of jiFUNzeni (http://jifunzeni.com) – an organization that designs to match content development and delivery to match user needs.

Christina Dinsmore is a Senior Lecturer (Strategy) at Southampton Business School (SBS) within Southampton Solent University (SSU). She is Course Leader for the suite of FdA Business (blended learning) courses currently running at SSU. Christina was a project member of the Discipline-focused Learning Technology Enhancement Academy project ‘Working with e-champions to enhance flexible learning’ which was supported by the UK Higher Education Academy. She is a member of SSU’s Blended Learning Action Support Team, the Blended Learning Research Cluster and is currently working on publications for the Research Exercise Framework, with an emphasis on the student experience.

Dr Dick Ng’ambi is an Associate Professor and a the leading researcher in mobile learning for developing contexts. He is currently the Programme Coordinator of a postgraduate programme in Educational Technology at the University of Cape Town (www.cet.uct.ac.za/masters). He has published widely, presented keynotes, workshops and invited papers at many international conferences. His most recent work involves using mobile devices to empower learners to become co-producers of knowledge, especially in environments of marginalised learners.

Dr Khitam Shraim is the director of the Center for Excellence in Learning and Teaching and the e-Learning Unit at An-Najah National University, Palestine. Her research interests focus on promoting creative learning and innovative teaching in higher education particularly in the area of technology-enhanced educational change. Khitam holds a Ph.D from the University of Manchester, UK. Her PhD was about the potential of the Web-based interactive mapping applications for e-participation and enhancement of public knowledge through visualization and spatial empowerment in educational issues. She also holds MBA in Finance and a BSc. in Computer Sci-
ence and a Higher Diploma in Educational Planning from the International Institute for Educational Planning (IIEP), Paris.

**Dr. Robert J. Wierzbicki** is professor of Online Media at the University of Applied Sciences in Mittweida, Germany. Professor Wierzbicki is expert in digital media, author of numerous publications and winner of prestigious awards in communication media. He is evaluator in accreditation of educational programs and specialist in international standards and procedures. Since 2009 he is the head of the Research Group Ambient Media (www.fgam.de) at the University of Applied Sciences in Mittweida and the science advisor for diverse research projects at the university. His current research focus is in the area of converged media and new pedagogical approaches for teaching in virtual environments.

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**Chris Atkin** is Professor of Education at Liverpool Hope University, UK. His main research expertise lies in the policy and practice of adult education and training with a particular focus on rural communities. His research has included both national and international comparative studies including ‘practitioner-based’ enquiry with a range of educational stakeholders.

**Philip Balcaen** received his doctoral degree in Curriculum Theory from Simon Fraser University, Canada, and is currently an Assistant Professor at The University of British Columbia. Philip’s general research focus is critical thinking in mathematics and science education. His educational technology interests include embedding critical thinking pedagogy within learning object design, and instructional design that includes embedded CT pedagogy.
Sofie Bitter is employed at the eLearning department of the Alpen-Adria-Universität Klagenfurt (AAUK). Furthermore, she is PhD student at the department for Marketing and international Management at the AAUK. Her main research interests are eLearning, Blended Learning as well as today’s importance of online social media for marketing aspects.

Mads Bo-Kristensen is a Senior Executive Advisor at the Municipality of Vejle, Denmark. He holds a PhD in digital second language learning and education. His research interests are in computer assisted language learning (CALL) and mobile assisted language learning (MALL). He has written several articles on ICT, media and learning.

Erik Cambria is a research scientist at the National University of Singapore, where he is one of the lead investigators of a new Cognitive Science Programme, co-funded by Singapore Ministry of Defence, at Temasek Labs. His interests include AI, Semantic Web, NLP, opinion mining and sentiment analysis, affective and cognitive modeling, HCI, and e-health.

Mavis Chan is a research assistant in the Centre for Learning Enhancement And Research of The Chinese University of Hong Kong. She participates actively in designing, reviewing, analyzing and summarizing research results. She is particularly strong at quantitative research methods and has an intense interest in the use of mobile technology for teaching and learning.

Dr Valentina Chappell is the director of the Master of Global Leadership and Management program at Friends University in Wichita, Kansas. She was one of the founders of the international business major in the Graduate School. Dr. Chappell is a certified online instructor and has been teaching in both traditional and online MGLM and MBA programs.

Dr Paula Charbonneau-Gowdy is professor of English as a Foreign Language in the Education Faculty at the Universidad Andres Bello in Santiago, Chile. She was previously Senior Advisor of Learning Development and Technology for the Government of Canada. She has published extensively in the areas of e-learning and distance education. Her research interests lie in pushing the pedagogical boundaries of social learning technologies.
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**Iain Doherty** has over 20 years’ experience with technologies and teaching and learning. In January 2012 Iain took up a position as Director of the eLearning Pedagogical Support Unit, Centre for the Enhancement of Teaching and Learning, University of Hong Kong. In this role Iain is responsible for the strategic and operational direction of elearning at the University of Hong Kong.

**Erik Engh** is an international expert within welding. He has a wide contact network all over Europe, including welding organisations and institutes. He has during the last 10 years been running several Eureka and Leonardo da Vinci projects, i.e. harmonization of the education and design of welders training courses to be used across Europe.

**Dr Jesús Estrada** was born in Bayamón, Puerto Rico. He holds a BA in Humanities, a Master of Science in Clinical Psychology, and a Doctor of Human Sexuality degree. He has been a grade school, junior high school teacher and a social professor for more than twenty years.

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Embedding Critical Thinking Pedagogy into Distributed Problem Based Learning Course Design - the Cases of Advanced Placement Physics and Personal Planning Ten

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Abstract: This position paper outlines the rationale, theoretical & design frameworks as well as offering a discussion of practical issues associated with embedding a (CT) pedagogical model into DL course design. Our BC Campus and BC Education On-line funded development project provides an opportunity to discuss and illustrate both theory and practice. The instructional design involves The Critical Thinking Consortium’s pedagogical model allowing designers to embed CT pedagogy that problematizes background knowledge, supports developing effective criteria for judgment, teaches CT concepts, employs use of CT learning strategies, as well as providing for a focus on developing the habits of good thinkers. The course design is discussed with reference to Nelson’s components that provide for “congruent design” providing a CT embedded approach to PBL including: 1) the use of: student centred and ill-structured problems; 2) a multi-disciplinary focus; and 3) opportunities for self-regulation, collaboration and evaluation of proposed solutions. Some argue that such an approach offers the opportunity to develop “deep understanding” rather than mere surface learning that is evident within various representations of design principles claiming to address teaching CT. We take up Nelson’s components as a framework for assessing aspects of the new course design.

Keywords: teaching critical thinking, problem based learning, embedded pedagogy, thinking strategies, habits of mind
Abstract: For years, educators have discussed how to assure successful online course outcomes while increasing student satisfaction and retention. Most literature advocates developing learning communities as the best way to engage students and provide quality online learning. However, course and program outcomes must be based on individual student achievement. Therefore, to increase retention and create an effective virtual classroom of adult learners, it is first necessary to bring out the best in each student. It takes time and directed faculty interaction to support each student in achieving their best performance and self-confidence. These qualities are necessary prerequisites for student participation and building a strong learning community. For example, first year MBA students usually do not meet standards of online discussion. Besides lacking necessary knowledge, many of them suffer from stage fright. When listening to an online lecture, each student is sitting on the front row as a passive and invisible recipient. But during group discussion and problem solving modules, each student becomes the central figure where the whole group can observe and evaluate his or her performance. Guided instruction by the professor will help each student develop their academic growth, professional confidence and business communication skills so they become capable of contributing to the discussion which is the basis of any community of learners. Once created, the community will help affirm each other’s self-esteem, social recognition and growth. Therefore, a quality online classroom consists of three major interrelated entities: professor, student, and course content. The dynamic interaction between the professor and each student within the course content will prepare them for constructive business communications with other students in the online forums. Only individuals with independent critical thinking, professional confidence and business communication skills are capable of contributing to a discussion thus creating an effective and long lasting community of learners.

Keywords: online MBA programs, building effective online learning communities, virtual classroom, focus on individual students, guided online instruction
Web 2.0 Technologies for 21st Century Learning: Creating Conditions for Sustaining Change in Institutions of Higher Education

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Abstract: In the last decade, views of learning have dramatically changed. These changes, especially those brought about by the advent of Web 2.0 social learning technologies, are having a profound effect on formal learning, in particular in institutions of higher learning. In this paper, we report on how three such institutions in three diverse locations - Europe, North America and South America, are responding to these pressures. Initial sections of the paper focus on an emerging definition of 21st Century learning culture based on social learning theories and the use of Web 2.0 technologies and what this means for institutions of higher learning from a pedagogical and organizational perspective. The paper then traces the various new Web 2.0 technologies that have been introduced at these three institutions, including the results of two doctoral studies projects involving video-based web conferencing. The next section explains the roles and responsibilities of the various stakeholders in implementing these changes. From a critical perspective, the implications of when, what, why and how Web 2.0 technologies are employed in terms of learners, learning and sustained change, are outlined. In the latter section, recommendations are provided and suggested future directions are identified as a means of calling attention to the emerging issues that need to be faced as paradigms shift, and increasingly, technologically-mediated interactions alter the ways learning is taking place.

Keywords: social learning, video-based web-conferencing technology, distance learning, changes in higher education
Our Journey From Face-to-Face to Blended Learning Approach: Important Lessons Learned

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Abstract: In the last decade, there are more and more hardware and software available for educators to consider moving from the face-to-face approach to blended learning approach. Some teachers and educators are putting an effort to convert their courses and programs to blended learning for a myriad of reasons such as to increase the number of student enrollment (Dziuban, Hartman, Juge, Moskal, & Sorg, 2006), and to provide an effective way to communicate with students (Borup, Graham, & Velasquez, 2006). Nevertheless, this is usually easier said than done because successful blended learning does not happen automatically. Successful blended learning requires more than the mere use of technology. Successful blended learning requires a careful consideration of the pedagogy and instructional design associated with how best to utilize the technology tools, how to facilitate the interaction among students, how to motivate students to participate in the discussions, as well as what contents are best delivered through the Internet versus face-to-face (Dziuban et al., 2006). Our Master of Arts (Instructional Design & Technology) program was launched in 1999. In this paper, we will share our experience of converting a face-to-face course in the MA program to a blended learning course. The original course was a 13 weeks one (39 hours of face-to-face instruction). Now it is a two and a half days course (20 hours face-to-face tutorials and 19 hours eLearning activities). We went through the journey from a 13-weeks course to a 4 full-days blended course, subsequently to a 3 full-day, and then finally a 2-and-a half-day course. We will share the major reasons to change the face-to-face course into a blended learning course, the essential guidelines to convert face-to-face activities to eLearning activities, the evaluation of the blended learning approach from the instructor’s as well as the graduate students’ perspectives. In addition, we will share the important lessons learned (challenges and issues) that faculty will encounter in converting face-to-face courses into blended courses.

Keywords: blended-learning approach, eLearning
Perception and Expectations Towards The PhET Photoelectric Effect Simulation in Learning and Teaching: Similarities and Differences Between Female and Male Students

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Abstract: This study is an extension from the previous study done by Chong et al (2011) on the use of online resources in teaching and learning in a local private traditional university. It has been reported in many studies that the use of technologies such as animations and simulations does enhance the effectiveness of teaching and learning. However, it has been pointed out at the same time that there are several factors that dilute the expected outcomes of the use of these technologies. As the Malaysian Qualifications Agency (MQA) has enforced the change in the national education system from teacher-centred to student-centred, it is important to have each of these technologies used accustomed to the needs of the students. This study intends to look into (i) the female and the male respondents’ attitude and perception towards the simulation used in their learning, (ii) the helpful aspects of the simulation, and (iii) the possible areas of improvement for the simulation in order to help stimulate the respondents to learn. Through the frequency test it was found that the female respondents generally have better attitude and perception in trying out the Photoelectric Effect (PE) simulation, and more receptive towards the proposed improvements. However, the paired t-test showed there is no significant difference between female and male respondents in most of the area surveyed. The correlation matrix reflected the design of PE simulation is remarkably good that it promoted the learning attitude and experience of all the respondents. However, this drove the male respondents for self inquiry while the female respondents were looking for guided questions and PE experiment based on wave theory as a comparison with photon theory in order to further enhance the understanding. The similarities and differences in using Photoelectric Effect simulation and other similar technologies between the female and the male students in learning and teaching should be acknowledged and attended to, in order to deepen their understanding of the topics learned and to avoid any discrepancy in the long run.

Keywords: eLearning, PhET simulation, photoelectric effect, gender, expectations
A Content Design Model for Emerging Appropriate Technologies

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Abstract: Globally, educators are wrestling with ways to reform an education system built for an industrial age now almost obsolete in a Knowledge Age. It is recognized significant reform is needed and there is adequate research to inform a way forward, but a question lingers – Knowing what we know, how do we change the entrenched and conservative bureaucracy directing most education systems and embrace the potential and promise of 21st century teaching and learning? Experience suggests technology has a significant role to play by providing multimedia, digital content to support a variety of learning styles and modalities. The model presented in this paper is a response to a design problem of how best to inform professional development and support course redesign. Just as cellphone technology enabled developing countries to leapfrog innovations in telephony, this model is a partial answer to how post secondary institutions, specifically those situated in challenging contexts, might leapfrog teaching and learning through the use of appropriate technologies.

Keywords: appropriate technologies, blended learning, challenging contexts, content design, 21st century teaching and learning, studio based design
Developing a Quality Framework of Project Management eLearning Materials as Part of Blended Learning Methodology In a Higher Education Learning Institution

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Abstract: Project Management is one of the essential subjects in the Faculty of Engineering and Information Technology INTI International University Malaysia that offered to all programs available from Diploma, Undergraduate and Postgraduate study. The primary goal of Project Management subject is to expose students to professional project management practices. The objectives typically include not only teaching theory, terms, definitions and new concepts related to the subject but also the transfer of new technical skills in using and applying specialized software as well as managerial skills dealing with people (interpersonal communications theory, dialogue, critical thinking and analysis skills, leadership theory, organizational theory, and team building). The CHAOS Report in 1995 providing the results of a survey which gathered data on reasons for Information Technology project failures. While a number of researchers have expressed questions on the methodology (Glass, 2006) used in creating the report, there have been indications from other researchers that the use of professional project management practices improves the chances of project success. Therefore the essence of delivering Project Management becomes crucial nowadays to ensure all students meet the required learning outcomes. In addition to classroom-based activities that regularly delivered every semester, INTI International University has introduced more innovative way of learning that combine classroom-based activity with online-based delivery known as Blended Learning (BL) methodology. Blended learning refers to course or subject that combine face to face classroom with online learning and reduced classroom contact hours. By having two methodologies at one time provides opportunity for students to have more flexible learning time exploring their understanding beyond the classrooms. Applying BL methodology for Project Management subject is challenging in a way that methods of delivery has to ensure the conceptual
integration between classroom-based mode and online-based mode without less estimation to the importance of team work for both. This research therefore aims to develop a quality framework in making Project Management effective by identifying components of framework, investigating issues and factors that should be considered in learning with BL mode. The suggested components are based on the literature that identifies suggested best practices and experience presenting various subjects online. Further, a qualitative measurement was introduced to measure and compare student’s perception on learning Project Management with BL and Traditional Learning as a progressive quality control towards the proposed framework.

**Keywords:** project management, quality framework, blended learning, eLearning, quality online delivery

**Enhancing the Undergraduate Experience Through a Collaborative Wiki Exercise to Teach Nursing Students Discipline Specific Terminology**

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**Abstract:** We present a randomized control trial research project that involved undergraduate nursing students working in small groups using a wiki to develop a collaborative glossary of health specific terminology. The background to the project is explained with reference to the relevant literature and the research aims and research method are both discussed in detail. We also present and discuss some preliminary results.

**Keywords:** nursing, nurses, language, terms, wiki, blended, learning
Integration of Virtual Welding Technology, eLearning and Activity Based Training in Order to Transfer Skills, Knowledge and Competence in a Life-Long Learning Context

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Abstract: Through the years the European Welding Federation and International Institute of Welding have managed to develop an international harmonized guideline for education of welding personnel. These guidelines have ensured a harmonized technological content and have created the foundation for international acceptance of certificates and diplomas that ensures the free movement of welding personnel worldwide. Due to the high costs of material, consumables and equipment the practical welding has traditionally been a costly exercise. Through the introduction of virtual welding technologies these costs have been reduced and skills upgrade facilities have been enhanced. A number of first and second generations of virtual welding equipment have been brought to the market. In 2004 the pedagogical methodology Activity Based Training (ABT) was introduced through the Leonardo da Vinci project MECCA. Since then ABT has been a key technology in multiple Life Long Learning projects in Europe. This methodology has turned out to be a useful tool for transferring of competence to the students, if implemented correctly. ABT can also be used in a vivid environment where both virtual welding and eLearning can be integrated into powerful yet cost effective training scenarios. This paper covers the following topics: 1. Discuss the current education scheme and their advantages and disadvantages. 2. What will be the key challenges for the teachers implementing such an integrated approach? 3. How can the teacher use the students as content providers in a life-long learning context? 4. Integration of technologies in a practical way which can be implemented in VET schools, Institutions and in Higher Education. 5. Experience. 6. Conclusion.

Keywords: virtual welding, ABT, learning design, eLearning, welding, competence transfer
Preventing Piracy - Verifying Veracity in Web 2.0 Content Assessments

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Abstract: This paper seeks to examine the notion of piracy cultures and their effects upon the field of education and in particular education at a university level. Whilst there is no doubt that the advances of technological developments have brought about many advancements in society, none more so than in the realms of information and communication technologies (ICTs) it is also true that their capabilities can be put to, perhaps, more nefarious uses. The idea of cybercrime is well documented (e.g. Wall 2007, Brenner 2010) however there is increasing concern over the ways in which ICTs are facilitating a shift in perception towards a tacit acceptance or even in some cases a proud promulgation of lesser misdemeanors. One of the less talked about spin offs of piracy culture in its broadest sense is the loss of integrity of information which has led to an increase in appropriation of content and more specifically to plagiarism in the educational world. Piracy cultures are blamed for a surge in plagiarism and other ‘offences’. Is this perception true? The authors argue that there is growing evidence that points to a need for a re-conceptualization of what is and what is not allowed in terms of data sharing. Our concept of education is augmented by the potentialities that information and communication technologies (ICTs) enable.

Keywords: plagiarism, assessment, verification, multi media
Student Perspectives on eLearning in a Blended Learning Context

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Abstract: This paper provides insights on students’ attitudes and experiences with eLearning in a blended learning context. The Alpen-Adria-Universität Klagenfurt (AAUK) uses eLearning in various ways such as to video-record lectures, for large-scale online exams and peer-reviews and as a centralized pool and tool to provide students with study materials and information. eLearning is also seen as an important means of fostering self-organization, of profiting from flexibility in time and space and providing possibilities for cooperation and collaboration. Hence, the aim is to offer our students appropriate, timely, and varied teaching methods that combine traditional face-to-face teaching with eLearning tasks to contribute positively to students’ learning success. In order to obtain an understanding of the students’ opinions and attitude to eLearning in a blended learning context, we conducted surveys in three consecutive semesters (summer semester 2009, winter semester 2009/10 and summer semester 2010). We used online and paper questionnaires for data collection and obtained 803 completed and valid answers from students. The research also reveals the stress factors students are faced with for example students holding down a job (periodic, part-time or full-time employment) alongside their studies at the university. Another essential part of the survey was the students’ eLearning and blended learning wishes for the future. Based on this feedback, we further enlarged and intensified our services such as video recording of lectures or providing interaction platforms. Furthermore, we implemented a secure exam environment (SEE) offering up-to-date online testing methods. The survey includes insights on students’ feedback and experiences with this new form of examination. This study confirms that eLearning and blended learning are appropriate teaching and learning tools to address the learning needs of a new generation of students, namely the ‘digital natives’.

Keywords: blended learning, students, attitude, potentials, risks, benefits
Automated Evaluation of Texts by Individual Teacher's Model

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Abstract: We herein present a method by which to construct an automatic scoring system for compositions. The correctness ratio of the multiple-choice question is the most commonly used method for measuring a learners’ progress in the current eLearning system. However, with respect to the eLearning system for composition education, it is not sufficient to use only the multiple-choice question to measure the ability of logical thinking and the power of expression. Descriptive-style questions are required in eLearning. Although a human teacher can grade tests and educate students, quickly grading and returning assignments and tests with appropriate explanations on a continuous basis is difficult for a large number of users. As such, in order to quickly grade and return assignments and tests and for fairness in evaluation based on stable criteria, an automatic scoring system is desired for grading descriptive-style questions in eLearning systems. In the English-speaking world, a number of studies have examined automatic text evaluation. However, metrics for essay evaluation are not opened in these systems or, when opened, language constituents to which the metrics relate are so abstract that learners are unable to improve their writing skills. We believe that systems with the above-described policy are inappropriate as a basis of eLearning for development of the learners’ ability because such systems cannot separately describe the evaluation criteria to their learners. We herein present a model of evaluation that represents a human educator and a foundation for composition/short essay evaluation in an eLearning system, which describes the evaluation criteria for all language constituents. We also propose a method by which to manifest the evaluator model as weighting for metrics. The proposed methods make it possible to automatically score texts from broad viewpoints, to reveal linguistic factors used by individual evaluators, and to quantify the weights of the elements that contribute to the final score.

Keywords: automatic text evaluation, short essay, composition, Japanese national language education, machine learning
Quality Management Standards for Implementing and Developing Blended Learning in Romania: Case Study of the University of Oradea

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Abstract: There are several ways in which eLearning can be implemented in higher education. Because the IT applications can be perceived as being complicated by the users, and because their use does not always match well with traditional ways of teaching and learning, much care needs to be taken in the implementation and development of eLearning education systems. In this context, the University of Oradea, through its Department for Distance Learning and Reduced Frequency Education (DIDIFR), has developed and enhanced a quality assurance system that assists its management team to provide effective BL education, on the basis of the quality standards system imposed by the Romanian Agency for Quality Assurance in Higher Education (ARACIS). Based on a set of six quality assurance procedures that facilitate five distinct applications of eLearning, the system combines flexibility with an effective quality management structure and benefits from its clear step-by-step processes and self-correction through planned project reflection time. From these perspectives, three knowledge domains provide the context for this paper: quality assurance, higher education and blended learning. Their intersection defines the research problem that was investigated - the quality assurance of blended learning in the Romanian higher education system - focusing on the model developed during the last couple of years at the University of Oradea, which was taken as a study case. The research design is an instrumental case study, focusing on quality standards as a supportive medium, in a flexible, BL model at the University of Oradea, Romania. The research methods include the literature survey, case analysis meetings on developing and implementing quality management standards and students’ surveys. The value of this study to the academic community relies in its findings, which include a taxonomy of critical success factors for BL, the identification of factors
which promote student and lecturer’s satisfaction/frustration with BL experiences, and lessons learnt by applying standard quality assurance theory to the instructional design process, in the context of the limits imposed at the Romanian education level.

**Keywords:** blended learning approaches, quality management, Romanian eLearning education system, developing and evaluating curricula in a BL environment

**Using Games Technology to Develop Reusable Virtual Learning Environments-an Embedded Approach**

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**Abstract:** The consideration of the use of computer games as a learning tool has a long, and often chequered, history. Many games have been developed for specific learning purposes that have been successful, but have not been able to be reused for any other learning purpose. At the same time the development of virtual learning environments and learning objects has focused on reusability of materials as a prime concept. One key benefit in using games technologies for the creation of learning environments or learning objects is in the proven efficacy of games in engaging and motivating players to undertake often challenging and complex tasks to completion, a benefit that traditional learning environments seldom achieve. The goal of the research reported here is to bring together the engagement and motivational capabilities of games technologies with the educational concepts of reuse inherent in virtual learning environments and learning objects. The authors have been engaged in a series of experiments, reported elsewhere and referenced at the end of this paper, that have sought to investigate the use of games technologies as learning environments, considering two dimensions of instantiation of learning constructs, namely bespoke vs generic and extrinsic vs intrinsic. This paper describes the culmination of these experiments, in visiting and redesigning an earlier experiment in embedding C++ learning constructs within a pre-designed game. The rationale for this revised experiment is in the encouraging, but inconclusive, results achieved by its predecessor, and the belief that increasing the richness and complexity of the gaming environment would conclusively amplify those results. The design of the gaming envi-
environment is described, and the mechanism for embedding the learning content and the outcome achieved. The outcome of the experiment demonstrates the potential for the use of pre-authored games with embedded learning content as appropriate virtual learning environments. Evidence is provided of the reuse of the game by students, creating reinforcement through continued exposure to learning concepts, and of the use of socialisation activities, building on the constructivist concept of learning as a social experience.

Keywords: games based virtual learning environment, embedded learning content

eLearning in Egypt - Challenges and Imperatives: Considerations of (Design Education) eLearning Courses In Egypt

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Abstract: eLearning is currently applied to several academic programs in Egypt’s universities. As a result, eLearning infrastructure and the technical expertise came to light. Helwan University administrations are well aware of the system; its contents and its benefits. This field addresses opportunities offered by eLearning used to improve student learning and quality of the assessment tasks prepared by professors of design education at the Faculty of Applied Arts. Due to author’s perspective, design education faces many challenges in Egypt recently. Application of information technology in delivery of design education continues to grow at a steady pace. This paper has presented the most influential developments of eLearning courses in design education. It has been the professors’ preoccupation at Helwan University as they are very interested in methods of improving the quality of their eLearning courses. On basis of instructional design (ID), certain models and techniques have been adopted to enhance instructional quality of eLearning courses in various aspects: How to facilitate material learned, how to make material easier to be understood, how to allow material to be more attractive, etc. We demonstrated design method for the
implementation of E-course content using available tools easier to be used through a proposed methodology, which is in compatible with the nature of Egyptian universities students. Finally, the paper proposes considerations of eLearning courses of "Design Education" by presenting planning framework for effective utilization of eLearning in design education at the Department of Metal Furniture and Constructions) and Advertising Department. This shows how the proposed considerations can be applied to design high quality eLearning courses in the Faculty of Applied Arts - Helwan University in Egypt.

**Keywords**: eLearning infrastructure, design education, eLearning courses, instructional design, education quality, eLearning in Egypt

**A Dynamic Open Innovation Framework to Accelerate Research and Regional Development in the Egyptian Open University**

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**Abstract**: Universities are the main source for developing future creative entrepreneurs and they engage with other sectors in research and knowledge transfers. The changing role of the university is bound up with the broader shift from an older industrial economy to an emerging Creative Economy. Commercialization of university innovation-efforts is essential for creating added-value for the university, the surrounding region and for the whole society. The role of the university has been enlarged to include not only teaching and research but also regional development under the entrepreneurial university concept. Traditionally, the so-called “linear model of innovation” ideas flow naturally from university science and technology that can be commercially exploited and turned into economic growth. The closed innovation loop is a view that says successful innovation requires control. This paradigm causes universities to be self-dependent regarding their Research and Development (R&D) processes. The logic of this view was an internally focused model. This paradigm has turned-out to be insufficient because of many reasons: change from competition into coo-petition or (co-operation); networks replace individual firms; customer and dynamic oriented approach substitute static strategies. But universities are part of a larger economic ecosystem, which
works best if the partnerships are open, collaborative and organized around the win-win principle. The new paradigm called “Open Innovation”, can play a vital role in accelerating research and regional development activities by using internal and external ideas, while finding internal and external paths to the market. The Open University (OU) is likely to play an essential role both as a university institution and in the everyday life of citizens. The entrepreneurial role of OU has been enlarged to include not only teaching but also researching and regional development. The OU with its information and communication technology infrastructure has the ability to connect industry and government to formulate the entrepreneurial triangle. This research tries to provide a new dynamic framework that can utilize both internal and external ideas to enrich the university databank with new ideas and enhance the regional development activities. A qualitative research approach was applied to create an in-depth understanding of the framework’s components. On-line semi-structured interviews have been used to identify OI methods for knowledge generation, implementation, commercialization and feedback gathered to complete the innovation cycle. The interviews were conducted with twenty members of the university; for instance, Presidents, Deans, Professors and administrators.

**Keywords:** Open University, eLearning, entrepreneurship, commercialization and open innovation

**Open Educational Resources in Distance Education: Exploring Open Learning in Academic Practice**

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**Abstract:** In Open and Distance Learning, academic practice is often constrained by the lack of teaching experience of tutors. In addition, tutors often have no access to a teacher programme or resources in academic practice to help them develop teaching skills and aptitudes. However, through their engagement with Open Educational Resources they can acquire abilities to design and evaluate learning resources. The paper discusses the problem of identifying educational resources on teaching from which tutors can benefit from in these environments. The focus is a project that revolved around repurposing a collection of digital learning resources
and created awareness of the value of Open Educational Resources for developing Distance Learning tutors.

**Keywords:** open educational resources, academic practice, open and distance learning, reuse and evaluation

### Examining the use of Asynchronous Voice Discussion in a Blended-Learning Environment

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**Abstract:** Many scholars and educators around the world acknowledge that interactions among students as well as between students and instructors play a crucial role in a blended-learning environment. Such interactions can occur asynchronously using a text based discussion forum which allows students to participate at their own pace. However, participants in text based discussion forums may run the risk of being misunderstood due to the lack of non-verbal cues. In this paper, we examined the use of a Wimba Voice Board to support asynchronous voice discussion. A quasi-experiment research design involving two classes of undergraduate students was conducted. One of the classes (n = 24 students) used the Wimba Voice Board while the other (n = 18 students) used a text discussion forum in BlackBoard. Data were gathered from the students’ online postings and responses to open-ended questions at the completion of the study. The results of the independent t-test analysis suggested that there was no significant difference in the students’ degree of participation in the two classes, asynchronous voice discuss class \( M = 2.92, SD = 1.586 \) and text discussion class \( M = 2.78, SD = 1.353 \), \( t = 0.299, df = 40, p = 0.767 \) at the 0.05 level of significance, although the mean number of posts in the former was higher than that in the latter. However, analyses of students’ reflection data suggested that asynchronous voice discussion have several advantages over text forums. We discuss three of them in this paper.

**Keywords:** blended-learning, asynchronous online discussion, voice board, discussion forum
Use of Animation as a Supplementary Learning Material of Physiology Content

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Abstract: Dynamic concepts are difficult to explain in traditional media. Animations seem to have the advantage of delivering better representations of these concepts. A wide range of subject areas such as chemistry and computer sciences are currently using animation to demonstrate their course contents (e.g. Kehoe, Stasko and Taylor, 2001; Payne, Chesworth and Hill, 1992; Dyck, 1995; Harrison, 1995; Tversky and Morrison, 2001). Lowe (2004) suggested that animations have the potential to serve both affective function and cognitive function. Affective function refers to portraying things in a humorous, spectacular, or bizarre way so that learners will be attracted to pay attention on the learning materials and motivated to learn. Cognitive function refers to the clear presentation of dynamic matters (which might be abstract and difficult) that can allow learners to understand in an easier way. Compared with static images and text, animations can present procedural information (e.g. biochemical reaction steps, physiological activities) more explicitly as they show the steps in detail. Quite a few empirical studies showed promising results animations have on learning (e.g. Trevisan, Oki and Senger, 2009; Hays, 1996). There are, however, also limitations. Designing and developing quality animations for teaching and learning can be challenging (Morrison, Tversky and Betancourt, 2000). Kesner and Linzey (2005) even found no improvement on students’ learning in using animations in their study. It thus occurs to the researchers that there are factors that govern successful use of animation in teaching and learning. The present study explored such factors in the context of medical teaching. About 600 students in eight different classes (collected over two years) in the same physiology course learned complicated molecular processes with assistance from animations provided as supplementary materials primarily for self-study. Surveys and group interviews were conducted that provided both qualitative and quantitative feedback. Results were mostly positive - animations surely explain contents more explicitly to students (especially for the explanation of dynamic
and complicated biological processes), make students more interested; and there is a greater demand for similar learning tools from the students. It is strongly believed that animations are good supplementary learning materials for students particularly for learning of complicated concepts. Important success factors we found included the detailed explanation of content, a good balance between clear presentation and beautiful interface, the speed of running/loading of the animations, and the selection of topics. However, we also found that animations cannot replace the existing lectures and traditional media - many students sequenced their learning activities in this way: read notes first to get a rough picture of concepts and the definition of terms, view animation, and lastly followed by reading text books. Many students prefer traditional learning media to animations for serious learning. Provision of good text is essential to in-depth learning of the subject matter. Animations may be a good starting point for students but they are not the end points.

**Keywords**: teaching dynamic physiology process, supplementary use of animation, advantage of animation in teaching

**A Study of Cooperative Computer Programming Learning Behavior and its Influence on Learning Performance**

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**Abstract**: The aim of this study was to investigate a behavior of students during cooperative learning about computer programming and its influence on learning performance. Students’ opinions and perceptions toward proposed learning activity and a web-based programming assisted system for cooperation (WPASC) were also investigated. The results of this study revealed most of students perceived the learning activity and the WPASC were useful for cooperative learning about programming. Students’ learning behavior was classified into six categories and it influenced learning performance. Students from _completely independent, self-improving using assistance, confident after enlightenment_ and _imitating_ categories performed well due to effective and motivated learning behavior. Students
from performing poorly without assistance and plagiarizing categories performed the worse; most students could not get assistance due to their low learning motivation. The results also showed that learning behavior may have increasing, decreasing and no transition. Therefore students of performing poorly without assistance and plagiarizing categories and with decreasing or no transition in learning behavior should be identified at the early stage of the course. Then the instructor should intervene into learning behavior of these students to change it into more effective for learning, give more incentive to increase motivation and also encourage all students to post solutions and feedback at the early stage of problem solving process.

**Keywords**: peer assistance, cooperation, learning about computer programming

**Foreign Language Learning Enhanced With Cloud Computing and Mobile Devices**

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**Abstract**: Thanks to the development of information and communications technology (ICT), there have been significant changes in foreign language education in the last twenty years. More recently, the rapid spread of cloud computing and mobile devices offers foreign language teachers even greater opportunities for better teaching in a variety of ways. The object of this study is to demonstrate effective uses of cloud computing and mobile devices to facilitate successful foreign language learning. The latest ICT makes it possible for teachers to help their students learn a foreign language in a more collaborative and flexible environment. Quantitative and qualitative analyses of the use of these ICTs showed that students tend to study longer and more frequently than when they did not use these technologies. We argue that the latest ICT will be one of the key elements to overcome long-standing environmental constrains in Japanese foreign language education.

**Keywords**: foreign language teaching, cloud computing, smartphone
Digital Storytelling and Student Engagement: A Case of Pre-Service Student Teachers and their Lecturers' at a University of Technology

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Abstract: One of the challenges facing higher education institutions in South Africa is low throughput (throughput is the number of undergraduates who complete their studies in the prescribed time) of students. Although there is empirical evidence to support the view that enhancing students’ engagement increases student’s academic performance, little is known about effective approaches to create students’ sustained engagement with learning resources. In response to the above challenge, this study investigated the potential of digital storytelling in enhancing student levels of engagement with their studies amongst 29 final year pre-service student teachers and their lecturers’ at the Cape Peninsula University of Technology (CPUT), South Africa, as part of their final year professional development course. Using Andersons (2003) model of learning interactions, the researchers were able to understand and describe the potential of digital storytelling in enhancing student engagement with their studies. The study employed qualitative methods of collecting data. Focus group interviews were conducted with the students and the facilitators of the project to elicit whether the production of digital stories led to student engagement. Findings of the study showed that the production of digital stories enhanced student levels of engagement with their studies, which led to a deep understanding of the subject matter.

Keywords: student engagement, model of learning interactions, digital storytelling, digital stories, digital literacy skills
Experiences of Applying a ‘Blended’ Learning Approach to Client-Based Student Projects

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Abstract. The paper reflects on the experiences of teaching a client-based course in Human Resource Management (HRM) in the final year of an undergraduate management degree. The course sets out to provide students with the opportunity to apply knowledge gained during the degree to client-based projects in local organisations. The course takes a ‘blended learning’ approach to teaching, supported by an e-communication platform. The course begins in a traditional way with sessions which provide students with the tools to manage the projects. These include the use of Microsoft project management software, the design and development of projects, effective report writing and the use of online journals. As the course progresses students assume greater responsibility for managing team performance and maintaining communication with the client and the teacher. Central to effective communication is the use of an e-communication platform which enables team members to talk with each other and, for the teacher to talk with each team. Assessment of student learning takes place through the use of electronic peer evaluations at three points during the course, individual online reflective journals and, a written report and presentation to the client. For students the ‘blended learning’ approach involves powerful experience as they attempt to manage the internal and external demands on the team to achieve the project objectives. For the client, working with the students provides not only valuable information in the form of a report but also the opportunity to develop a relationship with the School. For the teacher, the course provides valuable insights into the scope of client-based projects, self-managing teams and the potential and limitations of e-communication technologies for aiding student learning.

Keywords: ‘blended learning’, client-based projects, eLearning, reflective journals
Online Site Safety Induction Training: Implications for Mines

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Abstract: Mining is one of the world’s most dangerous jobs accounting for an estimated 12,000 deaths each year. In Australia, there were 18 fatalities recorded for 2008–09, a substantial increase from the previous year of 4 fatalities. As a result of this increase the Mining Industry recorded the third highest fatality rate in Australia. According to Australian Occupational Health and Safety Legislation, safety training for mine workers is compulsory and they cannot carry out any task at a mine site unless they have completed induction training. The regulation provides a general outline of the information to be covered in training, though does not specify duration or mode of delivery. Online training programs in the mining industry are becoming more popular with the most common uses for eLearning being induction and regulatory training as the internet provides a highly cost-effective way to deliver information pertaining to regulatory requirements. Compliance to the regulatory requirements is a key driver for developers of online training however the quality of instruction for online training programs varies greatly among organisations. Many companies focus on the technological aspects of their online learning programs and not the adult learning theories which underpin effective design. Without effective instructional design, courses delivered online may negatively impact learners’ understanding and performance. This paper focuses on mine workers’ level of perceived satisfaction with an online site safety induction program. The research approach used an interpretivist theoretical framework with mixed methods used to collect and analyse data. In this paper only the quantitative information will be reported and will focus on participants perceptions regarding any barriers to learning via the online induction program. Preliminary analysis of the data indicates that the main barriers were lack of computer skills and access to trainer support and that learner competency and motivation could impact significantly on participants willingness and/or ability to learn. The outcomes of this research provides valuable information regarding what factors contribute to the effectiveness of the online safety induction program, and highlights barriers which impede workers’ learning.

Keywords: perceptions, online learning, safety inductions, mining industry.
The Global Classroom Project: Learning a Second Language in a Virtual Environment

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Abstract: This paper reports the progress of a pilot project exploring the integration of a shared virtual environment for learning (Second Life) with the instruction of English courses at Lingnan University in Hong Kong. An educational partnership was developed with two TESOL teacher-training courses at Texas A&M University in the US. The project enrolled over 200 participants, with about half from each participating university. Coordination of online activities was done using the Moodle learning management system. A large non-traditional language learning facility was developed in the Second Life virtual environment in the style of a 1950's American diner on a private island, complete with Cadillac booths, traditional diner booths and tables, and outdoor campfire settings to facilitate conversational groupings. Both IM typed chat and VOIP voice interactions were explored inside the virtual environment. Student behavior observed during the study indicates the conditions which result in the most productive interactions, and also highlights several key problem areas which must be addressed before successful interactions can be achieved. This paper presents a process which has been developed and trialed, and the plans at Lingnan University to adopt it on a wider scale to support the development of language skills.

Keywords: shared virtual environment for learning, language learning, ESL, educational partnerships
Facebook for Teaching and Learning and its Effect on Social Presence and Sense of Community

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Abstract: Facebook, the most popular worldwide Social Networking Site (Pingdom 2011), has the potential to become a course tool for building learning communities in a regular course (Mazer et al 2007; English and Duncan-Howell 2008). While students visit traditional learning management systems (LMSs) for notes only, students are willing to spend time on Facebook for social interactions. We hypothesize that using Facebook in education has positive effects in promoting ‘social presence’, ‘sense of community’ as well as “course satisfaction” among Chinese students. Increased “social presence” means students sense a more salient role in their interpersonal interactions (Short, Williams and Christie 1976). Increased “sense of community” makes students feel that classmates matter to one another and to the group (McMillan and Chavis 1986). Both entities are important in a constructivist learning environment in which learning with and from peers are of importance. In this study, we investigated the above hypothesized relationships with two cohorts of students in a Business course at The Chinese University of Hong Kong. The research method used was a questionnaire which at the end yielded 201 responses. A series of bivariate correlation and regression analyses were used to analyze the data. Results of the study in general confirmed our expectations. The use of Facebook in the course led to increased social presence as well as sense of community perceived by the Chinese students. We also found that students had a higher overall satisfaction with the course if they 1) used the course Facebook more often, 2) had a higher social presence, and 3) had a higher sense of community in the course. The experiences have also led us to be aware of a number of important areas of consideration when using Facebook for teaching and learning, including issues of privacy and control of teacher workload.

Keywords: Facebook, social network, social presence, sense of community, course satisfaction, Chinese students
Case Studies on MyMathLab and WebAssign

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Abstract: Years ago, most supplemental materials that accompanied mathematics textbooks were only solution manuals to practice problems at the end of each section. As the technology has changed rapidly in recent years, many textbook authors and publishers have developed various resources in different formats, such as online homework systems, course videos, step-by-step processes, and animations to demonstrate important concepts to students. Utilizing these resources in both teaching and learning of collegiate mathematics has become more and more common at colleges and universities in the United States. However, learning mathematics solely through alternate venues still presents various challenges to students as well as instructors. In this paper, we survey two online homework systems: MyMathLab by Pearson, and WebAssign by Cengage Learning (formerly Brooks Cole) and North Carolina State University. Due to the differences among textbooks, we mainly focus on the following two textbooks: MyMathLab: Calculus and Its Applications, 10/E, by Bittinger, Ellenbogen & Surgent WebAssign: Essential Calculus: Early Transcendentals, by James Stewart In detail, we will illustrate the basic setup of these systems, compare different functions and resources that assist students to complete their homework, assess accompanied course management systems, such as grade books, and discuss advantages and disadvantages of both systems from personal experiences.

Keywords: online homework, course management, mathematics education
An Investigation of the Factors Influencing Student Engagement in Learning Through Using Facebook as Part of Online Learning Platform

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Abstract: Online learning platform is playing an important part in teaching and learning. Advancement in IT and telecommunication have significant impacts on the development of these platforms and student learning behaviour. Especially, the emerge of online social network sites, for example Facebook, keeps changing the communication, interaction and interrelation of students and their daily life. The trend relating to the usage of Facebook shows that more and more people participate in and rely on Facebook. Even though online learning platforms provide the discussion forum feature, students prefer communicating on Facebook. In order to motivate student learning, teachers are trying to make use of Facebook as part of the online learning platform in addition to existing online learning platforms. Past research on online social network sites has suggested that factors influencing includes student learning attitude, social relationship and learning environments. However, seldom studies try to consolidate these factors and examine simultaneously. Besides, seldom studies take into accounts how these factors influence student engagement in learning through using Facebook as part of online learning platform. This study attempts to develop a model of student engagement in learning with four areas: (1) Teacher-student interaction, (2) Convenience of technology, (3) Teacher-student relationship, (4) Student attitude toward Facebook. The students of the School of Continuing and Professional Studies (SCS), The Chinese University of Hong Kong (CUHK), studying Hi-Diploma Programme, are invited to participate in this study. A survey was conducted to examine how these factors affect students' engagement in learning. The results revealed that Convenience of technology, Teacher-student relationship and Student attitude toward Facebook influence significantly on student engagement in learning. The results show teachers how Facebook improves student engagement in learning. The study also tries to explore some demographic trend in related to student Facebook usage and learning.

Keywords: student engagement, online social network site, Facebook, online learning platform
Should Teachers Hold an Open Attitude to Students Using Digital Devices in the Classroom: a Pilot Study

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Abstract: Followed by an increasing number of notebook initiatives with full access to wi-fi among universities around the world, computers, especially the portable ones such as light-weight notebooks and tablet computers, have become almost standard equipment in tertiary education (Weaver and Nilson, 2005). More and more teachers are facing the decision whether they should allow students the use of technology in the classroom. The decision is difficult as there are apparently both advantages and disadvantages in doing either way. In terms of positive impacts, research revealed that the use of notebooks in a ubiquitous computing environment was capable of facilitating faculty-student interactions and in-class participation, which in turn enhanced engagement and active learning (Fitch, 2004; Partee, 1996; Stephens, 2005). In spite of these benefits, evidence was also identified to show a relationship between notebook use and distraction in class. The pilot study was to investigate the desirability of allowing notebook computers in class in our local context, and to explore the factors that influence the success of the practice. The study was conducted in a postgraduate course at The Chinese University of Hong Kong. Students were allowed to use computers in the lessons (free use) while at some of the time the teacher also held computer-related learning activities with the class together (guided use). Results in general supported the use of digital devices in class: it impacts positively on learning although participants also acknowledged the disadvantage of the temptation to use the computers for irrelevant purposes in class. Participants were also very conservative about channeling the use of computers in classroom to other academic contexts. The answer to the question whether computers be allowed in class thus is not a simple yes or no but is a series of suggestions concerning when and how.

Keywords: computers in classroom, distraction
Use of Information Technology in School-Related Activities and its Perceived Benefits Among Teachers and Students in Secondary and Primary Schools in Hong Kong

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Abstract: The initiative to explore the difference in digital experience and perception between teachers and students has not been novel in the field of education research. Fewer studies, however, were conducted to address the issue in the primary and secondary school setting. In our earlier attempt (Lam, Lee and Chan, 2011), we investigated the everyday usage of technology among teachers and students in schools. The present study extended the scope of the previous study such that we actually studied the eLearning experiences and the perception towards eLearning among the same groups of teachers and students. Students from Grade 2 and Grade 6 in primary schools and those from Form 2 and Form 6 in secondary schools were asked to take part in the study. Primary and secondary school teachers were also invited to complete a similar teacher-version survey. A total number of 1659 responses were collected from 4 primary and 3 secondary schools. In terms of eLearning experience, we found significant differences in the usage of complex eLearning strategies (such as communication-heavy and multimedia-heavy uses) between teachers and students in both primary and secondary schools. The results seem to suggest a need to provide relevant training to teachers especially in understanding, using and taking advantage of more complex eLearning applications. In terms of perception, despite differences in usage, both teachers and students in primary and secondary schools reported high degree of perceived usefulness of eLearning strategies. The difference between teachers and students was not big in this aspect. The findings seem to suggest that eLearning is slowly gaining support in the school sector – especially in terms of mindset, both teachers and students have positive attitudes about the use of technology in teaching and learning. The missing piece of the puzzle is how to do it and how to do it well.

Keywords: eLearning adoption, eLearning needs, school teachers
Learning Kanji Through Online Multimedia Manga: Student Perceptions Regarding Effectiveness and Engagement

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Abstract: Learning kanji (Chinese written characters) is one of the biggest challenges faced by students of Japanese language who have no background in this orthography. A visual symbol, its meaning and multiple readings must be memorized and available for retrieval and production. The challenge to the teacher of Japanese is to make what is usually considered simple repetitive rote learning into a more engaging, motivating and, at the same time, effective experience. This study examines a teaching and learning resource that combines storytelling and visual mnemonics in an animated manga (comic book) that students can view online. The creator of the manga has developed an original story that incorporates the characters, both visually and semantically, into a narrative that is meant to be both educational and entertaining. This methodology incorporates the ideas of visual mnemonics for kanji learning developed by Heisig, Rowley and others as well as the concept of plot mnemonics elaborated by Smolensky. The resource has also been developed taking into account the principles of multi-media learning proposed by Mayer. The manga was also produced in a static, paper version that students are able to use in conjunctions with the online version. Student evaluations of both versions of the resource were obtained during interviews and analyzed from a qualitative perspective for perceptions of efficacy for learning, effect on motivation, and enjoyment. Findings indicate that, while the resource was appreciated by most students, there were some problems with comprehension and with the artificial nature of a plot constrained by the arbitrary selection of kanji. In addition, the low-tech “fan-fiction” nature of the production was evaluated negatively by some students. While the resource may not be universally useful to all students, it should have the potential to engage and motivate some students in their learning of kanji, and when offered as an online, open learning resource, can potentially reach a large number of students who could benefit from this methodology.

Keywords: kanji, mnemonics, multimedia, online manga, student engagement
Videoconferencing Using SCOPIA for Teaching and Learning English as an Additional Language – Pedagogical and Technological Observations

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Abstract: There is an increasing demand for EAL (English as an Additional Language) blended and distance learning around the world. SCOPIA Desktop, a web browser plug-in, allows teachers and students in different places to meet in a virtual conference room, using standard internet connections, with video and audio connections. Drawing on their experience of using SCOPIA for teaching and learning English as an Additional Language with students in Japan, from New Zealand, the authors report on their use of SCOPIA as a teaching and learning tool, with reference to both technical and pedagogical issues. Conveying the subtleties of a communicative course via SCOPIA is dependent on excellent picture and sound quality. A document camera can enable sharing of text resources and also replace the use of the whiteboard but this can tend to slow teaching significantly. Pedagogically, the tutor/moderator cannot simply reproduce classroom teaching in a videoconferencing session: the technology makes certain learning activities possible, yet also limits the tutor in a number of ways. Successful use of videoconferencing technology for language learning requires thorough knowledge of and familiarity with the technology, as clear teaching and learning objectives, a pedagogical strategy and a good rapport amongst the participants for willing and effective language interaction and learning. The second part of the paper includes a summary of the responses of three participants in research on the use of SCOPIA, following their use of SCOPIA over a recent period in 2011 and 2012. Some difficulties and limitations are indicated in this section.

Keywords: videoconferencing, SCOPIA desktop, KAREN, distance language education, EAL, blended learning
Study of Student Preferences in Using the University Default Learning Management System Versus the Weblog in Learning and Teaching

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Abstract: Previous study done by CheeKeong et al (2010) has found that Web Based Learning Environment (WBLE), the learning management system (LMS) implemented throughout a local private university was underutilized. Most of the respondents have been treating the WBLE as a platform merely for downloading the teaching materials despite various features made available to them. The slow connection of WBLE has been highlighted as one of the main causes of the underutilization. The effectiveness of WBLE as LMS in learning and teaching was thus very limited. This study intended to conduct a more thorough review of the effectiveness of WBLE after about two years whereby the university has taken several actions to improve the responsiveness of the LMS as well as adding more features based on the feedbacks from users. In order to objectively study the students’ preference and the possible factors that hinder or promote the use of WBLE, the authors have set up a weblog hosted free by WordPress.com in addition to WBLE as their alternative LMS for an introductory Physics subject for a cohort of post-secondary students taking pre-university science programme. The students will be taking the physics subject along with four other subjects and using WBLE as their main LMS. It is statistically found that the students were more receptive towards the weblog as compared to WBLE. More interactions in the form of comments were recorded in the weblog. Possible factors that promote or hinder the use of WBLE or weblog were surveyed as well. The outcomes show that majority of the students still considered technical issues such as the functions or features available in WBLE and the speed of browsing the WBLE to be the essential determinants for the use of WBLE despite various improvements and measures taken by the University in the recent past two years. However, further investigation has revealed that the design and interface of WBLE play the actual role in attracting the students to frequent the LMS. Some students have proposed to incorporate Skype-like programme into the LMS as they wish to interact and communicate verbally with their lecturers apart from the face-to-face hours in the university.
Moreover, they wish to have more interesting materials and multimedia to be uploaded onto the LMS for reading and self-learning. All these have nevertheless set as the good guidelines on how to improve the WBLE and to promote better learning and teaching among the lecturers and the students.

**Keywords:** eLearning, WBLE, weblog, learning management system, preference, areas of improvement

**A Study on Computer-Supported Collaborative Learning in Statistics Classroom**

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**Abstract:** Information Technology (IT) as a vehicle for transmitting knowledge to students and/or individualising learning to suit each student’s learning needs or pace is only of partial relevance to the role of IT in education. IT may also organise an environment that engages students in collaborative learning but how peer collaboration fostered within an IT environment is not clearly known. Therefore, this paper aims to address the research question, “How do students perceive the learning activities taking place in an IT environment?”. Data were gathered from a questionnaire based survey through personal interviews of all fifty-eight students enrolling in Year 2 of the Higher Diploma in Applied Statistics and Computing (HDASC) course in the Hong Kong Institute of Vocational Education. This cohort of HDASC students was selected because Regression Modelling is a module taught in their Year 2 study in which web resources and Excel were utilised with an emphasis on social processes of learning. The results of the survey indicated that most students held positive perceptions of learning with IT associated with productive social interactions with their learning partners. They found their interaction with their partners collaborative and their communication beneficial to learning as it enabled them to verbalise their thoughts to sustain task-centred discussion.

**Keywords:** sociocultural theory, student interaction, peer learning, statistical computing laboratory
A Framework for Measuring Student Learning Gains and Engagement in an Introductory Computing Course

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Abstract: This paper describes a framework for measuring student learning gains and engagement in a Computer Science 1 (CS 1) / Information Systems 1 (IS 1) course. The framework is designed for a CS1/IS1 course as it has been traditionally taught over the years as well as when it is taught using a new pedagogical approach with Web services. It enables the new approach to be compared with the traditional way of teaching the courses in terms of student self-assessment of learning gains, student assessment of their engagement with the subject matter, and researcher assessment of student learning gains as measured by performance on a researcher-designed examination. The framework includes a comprehensive pre-test and post-test for students in the control and treatment sections to complete, a common assessment exam module for all students to take, and a faculty survey for the instructors to complete. This enables the researchers to answer many questions regarding the effectiveness of the Web service approach, including “Do students using the Web service approach perform better in the common assessment exam module?” and “Do students and faculty members find the Web service approach more engaging?”

Keywords: learning gains, introductory computing course, web services, learning engagement, SALG

Information Searching for Teaching Purposes

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Abstract: This article deals with the need for educators to provide precise instructional guidelines for students to use during online information searches to ensure relevant search results. The efficient use of information is a key factor to successful information retrieval. If educators do not prop-
erly specify what information is required, it would affect particularly novice searchers’ perceptions of the perceived ease of information retrieval and therefore their perceptions the usefulness of information searches. The problem goes beyond completing assignments in school or at university, because in the age of knowledge-driven economies many employees have to rely on their online search skills to help solve problems encountered by the organisations that employ them, or to optimise work-place procedures. This would make them not mere searchers, but actual researchers. The authors of this article speculate that educators’ imprecise and inadequate search instructions to students may be due to significant epistemological differences between how information is organised on Internet repositories and educators’ personal understanding of such information. New insights may be gained by extending information searching to educators’ understanding of how online information is organised, can be accessed and translated into knowledge.

**Keywords**: cognition, evaluation, information, information access guidelines, information literacy, knowledge, search engines, searches, search terms

**Learning Paramedic Science Skills From a First Person Point of View: An Initial Investigation**

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**Abstract**: Paramedic students need to acquire knowledge and skills necessary to perform basic and complex skills, assure patient safety, and manage sophisticated equipment. Demands for accountability, increased patient acuity levels, scarce quality clinical placements, and increased enrolments in professional programs have led health professional educators to embrace alternative opportunities such as simulation and multimedia in order to develop a student’s clinical expertise, and to better prepare them for clinical placement. Paramedic education laboratories are equipped with simulation equipment to facilitate the acquisition of the psychomotor skills required by paramedics, and are spaces where they can practice essential paramedic skills in a non-threatening environment. However, often the learning environment is encumbered by ‘noise’ or obstacles such as the educator’s body, or ambient noise from other students, staff or equip-
ment, all which inhibit a clear and precise view of the intricate skill to be learned. This study addressed the ‘noise’ issue through the use of video learning resources. Though using video as a learning resource is not new, there are three facets to learning that make this project innovative and beneficial to the learner; one, learning from a video composed from a first person point of view (1st PPOV); two, the viewing of the video learning materials using a mobile device such as a smart phone; and three, the use of QR codes to access the online videos. The six 1st PPOV video vignettes produced for this study were short, clear and instructional on the skills required for the successful provision of acute care. The research findings show that the 1st PPOV videos positively impacted students’ (n=87) learning of the six skills, and gave them a more comprehensive view and understanding of the skill in context. The findings also indicated that accessing the videos on a mobile phone was a bonus. The participants requested additional 1st PPOV skills to be included in the blended learning design across all areas of their Paramedic Science program.

Keywords: first person point of view, learning in the first person, paramedic science, paramedic science skills, skill acquisition, experiential learning, video learning materials

eLearning in Facility Management by Serious Games

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Abstract: Over the last two decades Facility Management (FM) has entered the university programmes in many countries and has also become part of various training activities. So far mainly traditional forms of teaching (such as teacher-centred teaching and project-based work) are in use, only partly supported by eLearning platforms. There is a huge demand for knowledge transfer and the use of digital media gets more and more common not only for the young generation. Games are highly attractive for knowledge transfer and acquisition. Serious Games combine the playful elements of games and the serious character of learning with modern teaching methods. The number of serious game applications has increased over the last years, such as in healthcare, military and education. So far, nothing comparable exists for FM. Within the research project PlayFM the authors apply for the first time Serious Game (SG) and Game Based Learning (GBL) methods and technologies to knowledge transfer in FM. The task is to develop
a computer-based 3D Serious Game “playFM” aiming at various target
groups and scenarios. The paper describes the results of the project com-
prising goals, target groups, game scenarios, mapping FM processes to
game contents, implementation technology, user interaction, and perspec-
tives. FM processes are the starting point for the serious game that aims at
different target groups and levels of complexity. The processes are sepa-
rated in different levels of detail. The game scenario, its flexibility, the user
interface as well as the implementation based on a powerful game engine
will be described. The authors see a great potential to increase attractiv-
eness and efficiency of education and training by serious games which is
most interesting to (vocational) training institutes and universities.

**Keywords**: serious games, game based learning, facility management, FM
processes, PlayFM

**The Digital School: Developing Teacher Competencies**

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**Abstract**: This paper focuses on the process of digitalising schools as an
innovative education strategy. We are focusing on teachers' roles in digitalis-
lisation, and how school leaders can engage teachers in educational inno-
vation that involves digital media. The paper draws on experiences from an
ongoing project in the Municipality of Vejle, Denmark, where 34 elementa-
ry and 4 special schools highlight the use of ICT, culture and diversity in the
knowledge society (www.vejleditaleskoler.net ). The paper presents ap-
proaches to the development of teachers’ competences in using ICT for
educational purposes, drawn primarily from the experience learned from
the Vejle Digital Schools project. It is important to focus on teachers, as
they have a central role in implementing educational transformations in-
volved in the digitalisation of schools. Schools face two main challenges,
we propose, in connection with this massive development of skills: ICT-
based soft- and hardware has evolved, and continues to evolve in tre-
mendous speed: A teacher who has taken a course in educational
ICT today, can easily feel (and perhaps rightly so) incompetent the next
year, even with regard to the same ICT-based learning methodologies. In-
Interviews with teachers and principals in Vejle (and elsewhere) suggest that when a teacher has been trained, he/she may find it difficult to apply what he/she has learned in practice. Even if the courses touch on basic topics, it may still be difficult to translate the course content, and adapt it for the teacher's own purposes. One of the issues involved in responding to these challenges is developing teachers' competences through practice, i.e. through practice-based development of ICT based teaching and learning. Against this background the question is asked: *What strategic considerations and decisions may be involved in improving the ICT competences of teachers as seen through the example of Vejle Digital Schools?*

**Keywords:** digital school, developing teacher competencies, strategies

### Competency-Based Approach to Translator's Training: The Example of LinguisTech

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**Abstract:** Technological advances, market diversification and global business and communication have had a tremendous impact on the way translation is understood, defined and practiced. Translation has become an integral part of daily life and different people have started playing the role of language mediators as part of a large network of agents and communities of practice. Translation and/or translator competency models have multiplied, shaped by different translation theories, market trends, business strategies or collaboration and interaction between the professional world and the academia. Technology in particular has had a significant impact on research and practices in recent years and radically changed the translator’s daily life in terms of communication (physical and virtual), the perception of language and text, the perception of quality, the nature and the quantity of the material to be translated, the nature of tasks and the simultaneity of tasks to be performed and the general interaction with the world which became a large and diversified series of networks. We will first highlight the multiplicity of translator’s profiles and competencies in the globalized world, with a focus on technological skills in interaction with other sets of competencies. Then, we will explain how we have applied our findings regarding the critical behaviours needed for effective technologi-
cal performance when designing an eLearning collaborative environment for translation students working in a technologized space.

**Keywords**: translator's competencies, translation technologies, translator's training, learning environments, linguistech, the translation ecosystem

**Technical, Methodological or Psychological Preparation: a Case Study of Using Electronic Portfolio Assessment in Initial Teacher Education in Hong Kong**

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**Abstract**: A major challenge for language teacher educators working in the area of language awareness is to develop pedagogical and assessment approaches that will go beyond merely enhancing L2 teachers’ subject-matter knowledge by enabling them to make the bridge between the declarative and procedural dimensions of teacher language awareness. In this paper, we discuss on-going efforts at the University of Hong Kong to design assessment tasks for the language awareness course entitled ‘Pedagogical Content Knowledge’. The final-year student-teachers taking the course are required to compile an electronic portfolio based on their reflections on the relevance and applicability of the issues relating to dealing with the content of learning in pedagogical practice discussed in the course. As Lynch and Purnawarman (2004:50) point out, ‘a solid electronic portfolio can show reflection, evolution of thought and overall professional development’. Research shows that electronic portfolio assessment can successfully engage learners in critical thinking and problem solving, promote lifelong education, encourage self evaluation and allow learners to have a higher degree of control over the learning process (Pierson and Kumari, 2000; Mason, Pegler, and Weller, 2004). Given the value of electronic portfolios, growing interest has been seen in using electronic portfolio assessment to support teacher education (Lynch and Purnawarman, 2004). The paper sets out to describe and analyze issues relating to the design and implementation of the assessment, focusing specifically on the challenges the research team faces. The case study shows that apart from technical support, psychological and methodological preparations are also needed
to help students to perform effectively in the computer-supported assessment. In our paper, we will be drawing on a range of data, including excerpts from students’ electronic portfolios and their feedback on the assessment to critically evaluate the extent to which the assessment has succeeded in achieving the intended learning outcomes. Implications are drawn for those who plan to conduct electronic portfolio assessment in higher education.

**Keywords:** electronic portfolio assessment, psychological preparation, methodological preparation, assessment innovation, teacher education

**An Application (app) for Learning - The Student Interface With Tablet Technology in Graduate Studies**

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**Abstract:** In this paper we outline the development of an iPad application (app) for a Masters degree in Education (MA) programme at Liverpool Hope University, England. The MA programme has a high proportion of part-time students, many of whom are working full-time or live at some distance from the University, and for whom there is therefore a reliance on online resources. The University has a well-established virtual learning environment (VLE, Moodle) for supporting students, but there is some dissatisfaction with the platform, including its ‘monolithic’ format (Severance et al, 2008) and concerns about patchy student engagement. In particular, it is mainly used as a repository for resources in the majority of MA modules, failing to realise the potential for ‘transformational impact’ (Browne et al, 2006). A number of lecturers in the Faculty are investigating the use of tablet technologies in developing new pedagogical approaches to learning at postgraduate level. One aspect of this research is focused on the development of an iPad app for the MA Education programme in collaboration with an independent software development company. The app is intended to provide greater flexibility and appeal in engaging with online resources, using aspects of social networking functionality and a sleek, visually pleasing interface to increase its attractiveness and appeal to learners. The development of the app is aligned with the hypothesis that tablet technology such as the iPad allows for flexible and spontaneous engagement with on-
line learning without the need to login to a PC. Whilst iPads have enjoyed huge commercial success and have dominated the tablet technology market to date, their use in education is still relatively undeveloped. In our research, we consider the ways in which this technology can be used to facilitate a more individual approach to learning. In particular, we show that the rigidity of the VLE platform can be replaced by a more instinctive and reactive technology that facilitates ‘learner control’ (Bouchard, 2009) particularly by students with professional and other commitments who navigate competing demands on their time.

**Keywords**: iPad, app, student-engagement, e-learning, VLE

**You are my Clients: A Multi-Disciplinary Software Development Project**

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**Abstract**: Recently, there are many good examples of how multi-disciplinary learning can support students to learn collaboratively and not solely focus on a single professional sector. In past years, we have arranged students taking different subjects within the Department of Computing to work in groups for joint projects. One observation is the lack of application domain knowledge amongst many of the completed projects. There is a need to bring in business elements while not introducing much demand in resources. In Fall 2011, we have attempted to gather students studying different professional domains together. Three groups of students from the Department of Computing (COMP) and the School of Hotel and Tourism Management (SHTM) are involved. The first group of SHTM students is planning a conference event in 2012 with over 300 guests. These students act as the customers who require a banquet management system as well as a delegates managing application. The role of the second group of SHTM students is to manage the development projects with the support of IT consultants who are in fact the COMP students. During the semester, different communication channels have been set up to facilitate the inter-group and intra-group communications with the support offered by an e-
learning system, Blackboard. In addition, there are classroom presentations given by the SHTM students and prototype demonstrations prepared by the COMP students. Pre-project and post-project questionnaires have been given to all participating students in order to assess their gain in professional and business knowledge in 2 different areas, namely database application development and conference management. In this paper, we would like to report our experience, problems and the difficulties encountered in this multi-disciplinary pilot project.

**Keywords:** multi-disciplinary learning, teamwork, software engineering

### Influence of Mobile Learning Discourse on Human Agency: A Critical Discourse Analysis Perspective

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**Abstract:** One of the challenges facing higher education (HE) in South Africa is to increase the number of science and engineering graduates. At the core of these disciplines is mathematics. Thus, the problem is that poorly prepared students find it difficult to succeed in university mathematics. This paper argues that the use of mobile phones has potential to enhance student engagement with mathematics learning resources. The study involved forty-nine first year students who had previously failed mathematics and therefore suffered from low self-esteem. Critical Discourse Analysis (CDA) is used to understand ways of empowering students and uncover the inter-relationship between text, interactions, and context. The paper concludes that the use of anonymous Short Message Services (SMS) fostered student engagement with mathematics and may have contributed to student’s improved academic performance.

**Keywords:** short message services (SMS), higher education, mathematics education, critical discourse analysis (CDA)
Emerging Technologies in South African Higher Education Institutions: Towards a Teaching and Learning Practice Framework

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Abstract: While there is noticeable increase in the use of emerging technologies (ET) in higher education institutions (HEIs) in general and South Africa in particular, most teaching and learning practices remain untransformed. Although the affordances of ET lend themselves to more transformative teaching and learning practices, current uses are still predominantly replicating traditional teaching practices. This paper reports on a snapshot of uses of ET among educators in the context of South African higher education. An online survey of 22 institutions was conducted between August-September 2011 including questions investigating educators’ use, perception and experiences with ET. A total of 262 educators who identified themselves as early adopters of ET responded. The paper adopts a view of ET as being highly context dependent. Data analysis is guided by a framework which links an educator’s pedagogical perspectives (i.e. associative, cognitive, and situative) to his or her use of ET for either replicative/prescriptive or emergent/transformative learning. The paper concludes that educators in South Africa use a wide range of ET in their teaching and learning practices, with some similarities and differences compared to international literature. They also engage in a blend of pedagogical practices informed by associative, cognitive and situative perspectives. This study’s findings further showed that ET are used by educators for both, replicative/prescriptive and emergent/transformative learning. Further research is needed to investigate the underlying reasons, beliefs and assumptions that guide an educator’s decision to use ET in either replicative and transformative teaching and learning.

Keywords: emerging technologies, South Africa, higher education, emergent learning, transformative learning
Cloud eLearning: Transforming Education Through Cloud Technology: Preliminaries for Generation C

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Abstract: Cloud computing is a buzz word that is also spilling over into the education industry, which enables access to software applications, hardware, data, and computer processing power on the Web, rather than installing software onto one’s computer or server. For education, it offers new possibilities to structure and perform learning processes. In this study, the potential impact of cloud computing on education is analyzed, showing what it means for educators and students as well as institutions, and summarized under the heading ‘Generation C’, where C stands for cloud. The results of the study revealed that cloud computing can be used by educators, institutions, and individual students as well as by jurisdiction to support particular teaching and learning experiences and to organize software availability. Challenges for educators and institutions using cloud computing in teaching could be summarized under the following keywords: interoperability and transferability, terms and conditions, security and privacy issues, backup and perpetuity, denial of service and content issues. On a whole, some implications of using cloud computing need to be kept in mind, good understanding of the applications in use, development of guidelines for use and migration strategies as well as the implementation of risk management could allow educators and institutions to take advantage of cloud computing, in turn offering rich online learning experiences for students.

Keywords: cloud based learning, cloud computing, digital native, eLearning, generation C
Bayesian Confirmatory Factor Analysis to Design a Mobile Training System in Rural Areas

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Abstract: The facts that the wireless technologies (1) are more convenient; and (2) need less skill than desktop computers, play a crucial role to decrease digital gap in rural areas. This study employed the Bayesian Confirmatory Factor Analysis (CFA) to design a mobile training system in rural areas of Iran. It categorized challenges, potential, and requirements of such mobile training system into 6, 3, and 4 factors, respectively. Namely, it pointed out and, respectively, ranked (1) the system’s challenges as “Human, Phone Company, Organizational, Technical, Expertise, and Security”; (2) “Post harvest, Pre-cultivation, and Crop cultivation & harvesting stages” as the system’s potentials; and (3) “Attitude toward the system, Mobile Skills, Self-directed learning skills, and Opinion about the price” as the system’s requirements.

Keywords: rural areas; mobile learning; information and communication technology (ICT); requirements; challenges; potentials

English Language Studies as a Stimulating Factor for Using the E-environment at the Latvia University of Agriculture

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Abstract: The technologies provide new innovative virtual environments that stimulate the learning process by facilitating information handling and
encouraging processes of communication through the increased variety of forms. The information flood phenomenon is complex and multifaceted therefore the information search and selection demand a cognitive activity. Information culture of a person is a combination of knowledge, skills and habits of work with information and with information technologies which could be considered to be the user’s information culture. On the other hand, the English language as “the language of science and technology” serves as a mediator in the information search not only for personal purposes, but also for the study and research purposes online, thus foreign language knowledge is one of the most important pre-conditions. The aim of the paper is to find out the students’ habits of using e-environment in the English language and the role of the English language studies at the university (ESP) in the use of e-environment in the study process of special subjects. The focus of ESP courses at the university is on 1) the development of knowledge and skills necessary for the reception (reading and listening) of scientific and professional texts to broaden students’ knowledge of major subjects and 2) production skills (speaking and writing) related to scientific and professional activities. The ESP teaching/learning is built on printed and online authentic materials, popular science publications, free online resources, tailor-made tasks and activities, since only a few agriculture specialities have ESP course books. Besides, in such fields as economics, the situation is changing every year, and the material, which was used two years ago, is obsolete now. Therefore ESP courses are based on blended learning, incorporating various forms of web-enhanced language learning: web-search activities, online ESP reading materials, web-quest activities, use of e-dictionaries, interactive free ready-made sources for ESP skills practice, video lectures and conferences in the subject field, podcasts, wikis, and chat rooms. The results of the survey among undergraduate students reveal that the English language studies have direct and indirect impact on the use of e-environment in the study process of special subjects.

**Keywords:** information culture, ESP, e-environment
Teachers’ Perceived Affordances of Google Site for Problem-Solving Teacher-Generated Classroom Management Cases

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Abstract: Google Site is a Web 2.0 tool and more specifically it is a structured wiki and a web page-creation tool. This case study reports findings from a group of 17 teachers’ perceptions of the affordances of Google Site called “Inquiry-based learning on classroom management” for problem-solving teacher-generated classroom management cases. The written cases consist of actual stories of situations confronted by the teachers in their academically challenging and culturally diverse classrooms from 14 secondary schools. Using a structured approach, the teachers posted their own written and audio cases, identified problems and proposed strategies in wiki. The teachers exchanged their cases with peers, identified problems and suggested strategies. With their peers’ input, they read their analysis, re-visited own case, reflected and made decisions of their case solutions. These teachers were surveyed of their perceived affordances of Google Site at the end of the workshop. Drawing on the questionnaire data, this study revealed that these teachers perceived highest technological affordance in Google Site (Mean=4.03, SD=1.023) followed by social affordance (Mean=3.97, SD=0.515) and pedagogical affordance (Mean=3.22, SD=0.901) in a five-point Likert survey. Qualitative data was also gathered from these teachers’ reflection logs and online scripts in order to provide more insight as to why these teachers perceived greater extent of technological affordance but a lesser extent of social and pedagogical affordances of Google Site. We discuss three affordances of Google Site and suggest future research direction related to its applications in higher education.

Keywords: affordances, case-based learning, classroom management, Google site, problem-solving, teacher learning
Towards a Pedagogical Model of Technology Integration: Using Web 2.0 Technologies to Learn Critical Citizenship at a South African University

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Abstract: Technicist approaches to technology integration are criticised for their failure to adequately emphasise deep learning in resource-constrained environments. However, literature that advocates learner-centred approaches, grasping heterogeneous students’ learning styles, their learning needs and knowledge production processes has emerged. The current study contributes to this literature by proposing two knowledge-centred models that integrate sound pedagogical strategy, appropriate ubiquitous technologies, and situated learning to address the learning challenges of Global Citizenship students at a South African university. Laurillard’s (2001) Conversational Framework provided theoretical lens for exploring the effectiveness of these technology-mediated pedagogical interventions. Findings suggest that although collective engagement and peer-based academic networking were salient in student interactions in the course, challenges of fostering deep learning, scaling the course, enhancing flexible and sustainable course delivery and accommodating diverse learning needs of heterogeneous students were observed. Technology-mediated pedagogical models that drew on emergent Web-based technologies and traditional collaborative tools were designed to resolve these challenges. Continual staff development programmes that leveraged academics’ technological skills and competencies, and foregrounded student deep learning were recommended.

Keywords: critical citizenship, global citizenship course, technology integration, knowledge-centred pedagogical models, ubiquitous technologies
Mobile Learning for Global Radiation Medicine Professionals: The IAEA Model

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Abstract: Through eyes of content developers, this paper presents a theoretical framework to enhance content development of m-learning resources. First, this paper examines literature on challenges and opportunities that m-learning faces. Second, this paper addresses one research question: how can education principles enhance content development of m-learning resources? Third, this paper addresses sound education principles that are integrated to enhance m-learning content development. “Adult m-learners”, a proposed term to refer to target audience of an available m-learning platform, purposefully can decide how they can best benefit from the m-learning platform, as developed by the Division of Human Health (NAHU) of the International Atomic Energy Agency. The NAHU perceives the m-learning as an “andragogical approach” to complement traditional learning processes in addition to the learners’ existing formal and informal trainings in radiation medicine. The “adult m-learners” must have personal learning purposes and needs which mindfully lead them to choose to learn from the m-learning materials. A result of this study is a policy consideration to embrace the education principles to enhance education and training programmes of the NAHU. This study has been going under a sequence of focus group meetings between external consultants and NAHU professional staff members since 2008. The IAEA is a non-university setting, but m-learning content developers in both university and non-university settings can benefit from this study by considering and adapting the theoretical framework to fit their institutional needs and practices.

Keywords: m-Learning, adult education, andragogy, radiation medicine
Electronic Learning as a Tool to Enhance Teaching and Learning Process: A Case of Taletso FET College

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Abstract: Higher education institutions aim at empowering students with knowledge and skills that prepare them to face the world confidently as job seekers and entrepreneurs. The introduction of technology into the institutions is to strive for excellence, quality and flexibility, therefore, technology has been a tool to measure civilisation. The lack of e-learning in higher institution is a major setback in the provision of quality education. Poor quality of education produces poor quality graduates. Absence of quality education might lead to graduates who are unskilled, passive, underpowered and non-confident. Arguably, these kinds of students might not be able to compete locally or internationally and thus lead to lack of employment. Nonetheless, there are a number of barriers that make higher education institutions not to want adopt e learning as a tool for enhancing learning and teaching such as lack of technology acceptance, lack of training and skills, believe and attitude, lack of finance, lack of managerial support. The aim of the study is to explore the integration of e-learning as a tool of enhancing teaching and learning process in Taletso FET College. Quantitative approach was used in the data collection process, which targeted the lecturers of Taletso FET College in Mmabatho, North West Province. Research findings shows that management as a decisive body is playing part in the slow integration of e-learning because of its perception, lack of support, costly, lack of motivation eagerness. Based on the findings, various recommendations were made such as; Taletso management should review its stand on the implementation of electronic learning.

Keywords: eLearning, technology, teaching and learning, further education and training (FET), lecturer
Repurposing an LMS - Using Blackboard in Academic Management

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Abstract: This paper reviews the extent to which EXCO Online, an academic management facility run on the WebCT/Blackboard LMS, has met the expectations of its 2007 launch in the Faculty of Arts and Design at the Durban University of Technology, South Africa. The online faculty portfolio (usually referred to as “EXCO Online”) was developed with the intention of providing a single secure online space to connect heads of department whose academic programmes are dispersed geographically over six different sites of delivery. EXCO Online contains key planning and policy documents and was intended as a space for sharing views and information around faculty operations, institutional strategy, and for expediting decision-making. Crucially, it was anticipated that the use of the LMS would have the added effect of familiarising academic managers with the capabilities of online learning technology, thereby making them more informed advocates of eLearning. The findings of two user surveys, one in 2007, and the second five years later towards the end of 2011 are compared here, and inferences drawn. The 2011 survey tests the developer’s original assumptions against the responses of academic managers after nearly five years as users of the facility. Some of the issues explored relate to the strengths and weaknesses of EXCO Online as an academic planning and decision-making instrument, while others relate to the anticipated secondary effect: an increase in the adoption of blended eLearning approaches by other faculty staff. Explanations are offered for the qualified “yes” that emerges in answer to the question: “Did head of department participation on the Blackboard LMS-based EXCO Online in any way encourage the adoption of eLearning by their staff?

Keywords: eLearning advocacy; academic leadership; survey tools; adoption of eLearning; LMS; faculty development, virtual learning environment
Lecture 2.0: Repurposing the Captured Lecture as an eLearning Resource Within an Interactive, Integrated Learning Environment

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Abstract: There is continued debate about the role of the lecture in 21st century education (Williams and Fardon 2007; Dolnicar 2005). While this debate is ongoing, the lecture is still a common feature within most higher educational institutions. Lecture capture has been used for a number of years in many institutions to enhance and extend the usefulness of the lecture activity. It provides significant advantages for the students (Bradley 2009) but there are distinct limitations to the technologies used as they stand. In particular, many systems are designed to be used in large lecture spaces and do not lend themselves to smaller classrooms due to cost, portability and staffing issues. In addition many implementations are fixed or wide-angled and provide limited quality in terms of video standard and information retrieval. Research has shown (Woo 2008) that some of the perceived benefits of lecture capture (eg reuse for distance learning or for catch-up if a class is missed) are reduced when these technologies are used alone. In addition lecture capture (by definition) tends to record the lecture as a standalone unit, and even when enhanced with screen capture has several limitations when intended as more than a useful revision resource. This paper discusses the benefits and limitations of several versions of lecture capture and dissemination. It then proposes a framework that uses the best features of these and extends them to support a range of different approaches to learning, from enquiry led to traditional lecture driven, by integrating the captured lecture into a learning structure where it forms one of a range of interlinked learning resources. This approach supports different learning styles, allows student interaction with the content and makes more effective use of the different learning resources, without the staff overhead that often makes the creation of such resources impractical. To underpin the concept, a number of prototype systems, which incorporate the key elements of the final system, have been developed and deployed within classroom environments. The paper presents an analysis of the results from these pilot studies from both the staff and student perspectives and shows how these results were used to develop the
specification and design of the final integrated system currently under production by the authors.

**Keywords:** lecture capture, learning theory, student centred, practice based

**Webinars: Ease of use and Usefulness for Disadvantaged Students in a low Bandwidth ODL Environment**

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**Abstract:** As an Open Distance Learning (ODL) institution, the University of South Africa (Unisa) has invested heavily in a Virtual Learning Environment (VLE) in an effort to overcome the challenges of providing innovative learning and support programs to a diverse student body that currently numbers close to 400 000. The majority of students are located within the borders of South Africa, where many historical, technological and infrastructural impediments not obvious to a first economy exist. As such, the roll-out and adoption of cutting-edge and innovative VLE tools are not easily accomplished. The focus of the paper was to answer a variety of questions related to the ease of use and usefulness of a webinar tool for disadvantaged students in a low-bandwidth ODL environment. Introducing the webinar tool in two information technology courses, we determined the take-up profile of users as it relates to the context of their disadvantagedness, which may impact on the point, method and cost of access; the student user experiences as it relates to familiarity, problems experienced; the scope/potential, collaborative value, and presentation experience of the webinar tool; and the facilitator’s experiences in setting up and presenting the webinar. Adopting an interpretive perspective, we present both qualitative and quantitative data collected from student surveys and the facilitator’s research diary. Our results support elements of the Unified Theory of Acceptance and Use of Technology (Venkatesh, Morris, Davis and Davis, 2003) which posit that ease of use of the system influences the perceived usefulness thereof. Antecedents and moderators of perceived ease of use as identified in the current study were directly related to the level of disadvantageousness of Webinar users, which not only determined the type
of connection that they used and resultant ease of use, but which impacted on the perceived usefulness of a Webinar.

**Keywords:** open distance learning, webinar, low bandwidth, disadvantaged students, ease of use, usefulness

“Too Hard, Too Busy”: A Case Study in Overcoming These Barriers to Online Teaching

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**Abstract:** The adoption and integration of online learning and teaching in higher education is becoming increasingly important in our rapidly changing digital society. While many teachers and academics acknowledge the importance of adapting their own teaching practice to this new approach, knowing how and where to get started can be a daunting task for many. There is an overwhelming amount of professional development information regarding online teaching available to educators through workshops, the Internet, books, technical demonstrations and academic papers. However time-poor teachers often find it difficult to invest time and effort into attending workshops, or analysing available theory and research (McIntyre 2011) to derive online teaching approaches relevant to their own situations. Similarly, many teachers first embarking on a new online initiative can find it an isolating and frustrating experience, with limited peer support (Bennett, Priest and Macpherson 1999) and practical pedagogical guidance while ‘learning the ropes’ or preparing course curriculum. So what approach can be taken to firstly connect with these teachers at the ‘coalface,’ and then support them through their initial investigations and subsequent development of online teaching practice? In 2009, COFA Online at The University of New South Wales won funding from the Australian Learning and Teaching Council (ALTC) Competitive Grant Scheme for a project called *Learning to Teach Online (LTTO): Developing high-quality video and text resources to help educators teach online* [http://bit.ly/d18ac5](http://bit.ly/d18ac5). The project’s aim was to produce a set of resources to enable more educators, particularly those with no online experience, to successfully adopt and develop online teaching practices, and to reach a diverse audience of teachers across different disciplines and institutions throughout the world. This paper discusses the strategies adopted by the
LTTO Project to ensure the resources focused on pedagogy and were perceived as pragmatic, easy to use and readily adaptable. It also outlines how the adoption of social media as a dissemination method facilitated easy access to the resources by a wide audience of teachers both with and without online teaching experience, and promoted greater awareness and uptake across disciplines and institutions around the world. It demonstrates, through summative and formative evaluations, how this approach effectively encouraged teachers to get started with their online teaching and stimulated their interest in further research on the topic.

**Keywords:** pedagogy, eLearning adoption, online teaching, time-poor teachers, collegial support

### Gender Difference in Using Technology for Learning: An Empirical Study in Hong Kong Higher Education

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**Abstract:** Previous studies find that using technology for learning is a dominant activity for male and males tend to have positive attitudes towards the use of technology for learning more than females. However, it is found that there are a few researches studying on the gender difference in the perception of using technology for learning in Hong Kong. Therefore, the aim of the study is to examine the gender difference in the attitudes towards using technology for learning in the Hong Kong higher educational institutions. In this study, it employed a survey methodology to collect a total of 211 questionnaires from one of the universities in Hong Kong. The findings show that there is a significant perceptual difference between female and male students in using technology for learning as a dominant activity for male. Moreover, females perceive more negatively than males in using technology for learning as a dominant male activity.

**Keywords:** gender difference, Hong Kong higher education, learning using technology
The Assessment Aspects of eLearning Courses at Latvia University of Agriculture

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Abstract: Learning process is connected with different information technologies. Most people use new technologies every day, because it is a more comfortable and quicker way of achieving their objectives. eLearning is one of the modern approaches in educational field. The e-courses of different types are part of eLearning, for example, blended and distant courses of eLearning. E-courses now are more complicated than in previous 10 years, because they include many different tools of Web 2.0. The preparation of eLearning courses at universities requires the university teacher to have the abilities to transform the science system into a didactical system using didactical analysis of the study content. The eLearning increases requirements for the lecturer (educator) mainly in the area of structuring learning material and defining the minimal accepted performance. It is important that the lecturer could define requirements for an effective evaluation corresponding to the learning goals and create space not only for the evaluation of memorized knowledge but also the evaluation at the level of logical, critical and creative thinking and the evaluation of the ability to use information resources. Taking into account that the Latvia University of Agriculture (LUA) has little experience in designing e-courses, the academic staff implemented only blended eLearning courses. This paper introduces the e-course quality assessment at the LUA. Quality criteria for assessment of e-courses designed by experts in the fields of eLearning and didactics (the authors) were used. The experts analyzed 30 e-courses designed by the academic staff in different fields of agriculture science. The paper presents the analysis of common problems in designing e-courses. The main problems were connected with communication blocks in e-courses (such as chats, forums, individual tasks etc.), designed quizzes and the definition of the evaluation system. Many of the designed e-courses had didactic problems.
Keywords: assessment criteria, Moodle environment, e-course in higher education, blended learning

Learning Outcomes in two Different Nursing Educational Approaches in Iran: eLearning Versus Lecture

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Abstract: Traditional teaching methods used in medical education couldn’t meet the need for keeping pace with up-to-date information. The present study was conducted in order to compare the effect of lecture and eLearning methods on nursing students' learning outcomes in the Iranian educational context. A cross-over design was employed. The study sample consisted of 32 students who were in the third semester of Nursing Bachelor Program and were passing Maternal Child nursing course. The first part of the course was taught using lecture method during the first four weeks; an eLearning method was used to educate the remaining part of the course during the second four weeks. Students' learning outcomes in each method, opinion toward and participation with both educational methods were assessed. No significant difference was found between students' exam scores in both methods (P=0.000). Considering students' opinions toward educational methods, no significant difference was found between the two methods in general but students reported better "capability" and "independency" in eLearning method while the method of lecturing brought about higher scores in "effectiveness on learning" and "motivation"-related characteristics. eLearning can be used in teaching some nursing courses. It is recommended to use e-learning method with appropriate interactive strategies and attractive virtual environments to motivate students.

Keywords: lecture, eLearning, learning outcome, nursing student
PHD Papers
Interactive Effects Between Cognitive Preferences and Instructional Strategies in Museum Learning Experiences

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Abstract: The wide opportunities offered by web-mediated environment have successfully convinced museums around the world to utilise the technology in enhancing their visitors’ learning experiences. However, museum’s visitor profiles are expected to involve diverse characteristics such as gender, background, and prior knowledge. These visitors’ profile differences thus enforce museum curators to be mindful of how to present their online exhibits to ensure they afford more effective learning experiences. Yet, the rising interest in creating online museum environments presents fresh dilemmas for museum curators and their exhibit designers to understand the visitors’ numerous differences. Meanwhile, examining cognitive differences in individuals is now becoming essential in understanding and explaining the complexities of effective human-computer interaction (HCI) whereby suggest that individual cognitive preferences may have an impact on how environmental variables affect learning. Accordingly, this research proposed that allowing for an individual’s cognitive preferences may provide an appropriate solution to improve the design of the museum exhibits, particularly in the web-mediated environment. Applying the quasi-experimental design, the research investigated the interactive effects between the participants’ cognitive preferences and the museum information representation formats within two different instructional strategies. The findings reveal that cognitive preferences do have an effect on the participants’ performance in their museum learning outcome. Accordingly, an interaction effect was noted between the participants’ cognitive preferences and the instructional strategies in their museum learning performances. The findings from this research help to understand how learners’ mental models may work to enhance their information processing through the web-mediated instruction they receive thus provide the empirical evidence that it is important to understand how specific multimedia format can better present the online museum exhibits.

Keywords: cognitive preferences, instructional strategies, multimedia formats, museum learning, web-mediated environment, human-computer interaction
Exploring a Rhizomic Model for the Design and Dissemination of Professional Development in Online Teaching

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Abstract: A rhizome is a horizontal system of roots that grows underground, comprising a series of nodes and connecting shoots that continues to expand and form new connections as it grows. The Internet, with its increasing number of servers and connections could be considered as an ever-expanding system that enables new types of rhizome-like connections between people, knowledge and communities to occur. These connections can often seem random, but those involved usually have an underlying, if not immediately obvious common interest or purpose. Web 2.0 tools and digital networks are becoming increasingly ubiquitous in many aspects of contemporary society, and are in many ways similar to the nodes of a rhizome - a place where connections may form. Yet understanding how to maximise the potential of being able to connect with a diverse range of individuals, professional entities and institutions via these mediums can be difficult. What is the purpose of such connectivity, and how can the design and implementation of professional development resources utilise the concept of a rhizome as an effective means to maximise the constructivist potential offered by the digital age? The Learning to Teach Online project http://bit.ly/d18ac5 is a free Open Educational Resource (OER), designed to offer educators proven advice from a wide range of colleagues in different institutions and disciplines, about the pedagogies, challenges and rewards of online teaching. Following its release in 2010 by COFA Online at The University of New South Wales, the spread of the resources around the world via Twitter, Facebook, blogs, institutional links and word of mouth far exceeded initial expectations. While the use of social media to promote the project was always considered from the outset, the extent of the spread within K-12, vocational, higher education and private consultancies, and the subsequent penetration of the resources into existing educational programs were not expected. In this respect, the dissemination of the Learning to Teach Online project mirrored the behaviour of a rhizome, being widely spread to seemingly disparate educational communities globally, in a manner that was neither precisely controlled nor predictable. This paper is a snapshot of ongoing research within the author’s doctoral thesis,
into the behaviour and significance of the ever-growing digital rhizome surrounding Learning to Teach Online. It begins to unravel how the design of the resource enabled social media to be used for rapid dissemination on a global scale. The paper also explores how, as a result of some members of existing academic communities connecting with the project’s digital rhizome, the resources were able to benefit other teachers not familiar with online teaching or web 2.0 technologies. In these cases, the penetration of the rhizome into many different types of existing academic communities has enabled the transmission and acceptance of new ideas that have begun to positively effect perception and adoption of online teaching practices amongst their members.

Keywords: rhizome, OER, professional development, web 2.0, pedagogy

Context and Appropriate Technology: The Unavoidable Partnership

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Abstract: Teachers in rural parts of Kenya lack opportunities for professional development (PD). In addition, the teachers have no access to eLearning opportunities like their colleagues in urban parts. Among the factors that do not favor Kenyan rural teachers’ access to PD through eLearning include: lack of access to relevant technologies and lack of electricity. This paper shares research findings on provision of teachers’ PD through a blended learning approach, utilizing appropriate technologies in a rural school in western Kenya. Ten teachers and two Professional Development Teachers (PDTs) participated in this research. In the study, teachers’ needs assessment was done, to inform the instructional design on the topic: How to teach a large class of mixed ability students. The PD was implemented by engaging teachers in a variety of activities including: pairs of teachers collaboratively using a tablet to access self-study content; teachers studying through multimedia content; teachers planning and delivering lessons using activity-based learning and cooperative learning approaches; and PDTs and teachers participating in fortnightly face-to-face meetings. The findings of the study suggest that teaching practices of rural educators can be improved working with local experts to create locally-relevant content for needs-based PD, implemented in a blended learning approach.
while providing technology stewardship. Teachers accessed and studied through offline content; planned for and implemented cooperative learning and activity-based learning in lessons, using locally available materials; engaged in reflective conversations on successes and challenges; and spontaneously engaged in very lively professional dialogues. While teachers appreciated that it took long to prepare for active learning lessons, it was less strenuous to implement the lessons, because the students took responsibility for their own learning.

**Keywords:** appropriate technology, challenging context, professional development teachers, solar energy, tablet devices
Non Academic Papers
Telkom eLearning Implementation Journey: From Zero to Hero

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Abstract: PT. Telekomunikasi Indonesia (known as Telkom) is the biggest TIME (Telecommunication, Information, Media and Edutainment) Company owned by The Government of Indonesia. To fulfill the needs of expertise face highly improved technology, Telkom shall improve its human capital competence to ensure that the company will be ready to compete with others company in same field of business. Unfortunately, problem related to significant numbers of employee and cost limitation are considered as issues must be solved without ignoring the quality of human capital development itself. In line with the needs of efficient competence development method and also development of educational technology and internet, Telkom begin to implement eLearning as an alternative method of learning. It started with the implementation of distance learning class room using video conference in the middle of year 2001 and followed by computer based training using CD ROM and next one is eLearning. The last mentioned method now becomes the ideal solution to fulfill the needs of human competence development besides class room training. ELearning not only solved cost limitation issues, furthermore it helps to deliver training in standard content with the flexibility of time and wider area distribution by using internet. Thereby, in 2011, eLearning has been growing into one of the eminent products of Telkom Learning Center which is increasingly in demand. Equality in accessing and learning opportunities for the whole employees at all over Indonesia makes eLearning becoming a program which is formally recognized as one learning delivery method at Telkom. Impressive development of eLearning is sustained by a diverse range of strategies based on Four Stages of eLearning implementation introduced by Josh Bersin (2005). Each of these stages has different business drivers, challenges, and business benefits. The stages are: Getting Started with eLearning; Expanding Service of eLearning; Integration & Alignment; and Learning on Demand. Beside those strategies, socializing takes important role to ensure this new uncommon method is accepted by employee. Numerous related parties should be targeted and persuaded to be able to put the interest in learning through eLearning. This paper will describe the journey of eLearning implementation in Telkom. We will share the stages
and strategies that have been designed in eLearning deployment since its beginning in 2007 till present.

**Keywords:** eLearning, competence development, implementation strategy
Work In Progress Papers
A Critique of the one Laptop per Child Program: A Need for Collaboration

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Abstract: This paper takes an objective look at the One Laptop per Child (OLPC) program and examines how Western cultural norms affect the success of the well-intentioned program. This paper will first discuss the assumptions that are made by the developers of the OLPC program and the inaccuracies those assumptions have on the developing country’s communities. Thirdly, this paper will discuss the danger of the one-size-fits-all business model the OLPC program is modeled after. Lastly, this paper will discuss the notion of collaboration and the irony of the OLPC. Finally, this paper will suggest that the OLPC designers widen their program team to include education experts, members of the communities they are sending the laptops to and other relevant professionals.

Keywords: educational technology; collaboration

EFL Students’ Perception of the use of Text-to-Speech Synthesis in Pronunciation Learning

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Abstract: English as a Foreign Language (EFL) learners usually find speaking particularly challenging. One way to improve speaking skills in a foreign language is to speak with native speakers of the target language as often as possible. However this is not always easy in places where the population of speakers of the target language is scarce. Language anxiety is another major hurdle that EFL learners need to overcome. Being afraid of making mistakes, students tend to be reluctant to speak in the classroom. Teachers who constantly correct students' errors can intensify the students' apprehension. A key challenge in EFL learning is that how adequate help can be provided to learners with limited teachers' intervention. This paper reports the design of a study on the use of text-to-speech (TTS) synthesis in English pronunciation learning with the aims to alleviate EFL students' lan-
guage anxiety, and to empower them to learn pronunciation with limited teachers' support. The study adopts TTS synthesis as a pronunciation model in exercises focusing on the supra-segmental level. While coverage of the segmental level is not planned in the study, TTS synthesis facilitates learners to learn pronunciation of unfamiliar words by listening to the synthesised speech. The research question of this study is whether TTS synthesis can help alleviate EFL students' language anxiety, resulting in improving students' perception towards English pronunciation learning. Six one-hour sessions on English pronunciation are planned for a class of secondary 3 students over a two-month period. The instructional design is based on the John Keller's work which emphasises the motivation design. Data about the students' perception on English pronunciation learning will be collected in the first and the last sessions for analysis. Selected students will be asked for any perception change on English pronunciation learning in the study and the reasons behind in subsequent interviews.

**Keywords:** language anxiety, pronunciation learning, student perception

**I Learned it With TIMO: Using MLearning for the Teaching of Social Sciences at an Undergraduate Level**

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**Abstract:** In this work I present my approach to MLearning which was accomplished with a group of Social Science students. Instead of a traditional teaching method; lecture or conference (active transmitter-passive receptor) I designed a teaching model (Estrada’s Basic Teaching Model). Based on the Constructivism approach to learning, the strategy is used to guide students through the process of exploration, investigation and revision using internet on cell phones as a learning tool to receive, investigate, apply and evaluate the information, learning objectives and skills established in the Social Science class syllabus. The goal, as constructivist approach, is to empower students not only to acquire new knowledge but to construct and evaluate new knowledge in the Social Science field. The process is summarized in a worksheet I prepared to evidence their work. At this time TIMO uses cell phones only for portability reasons.

**Keywords:** social science, constructivism, teaching models, WebQuest
Developing a Framework for Including all Teachers: The Implications for Design and Delivering a Comprehension In-Service Teacher Education Program

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Abstract: The delivery of education programs to personnel today in range of professional, industries and trades is being influenced by the enhanced capacity of technology. Historically, where persons once attended fixed classes at a training institution, they are now able to take these same classes through on-line, and/or mixed mode delivery (e.g., asynchronous, synchronous delivery). These same options are now being offered to persons in remote community areas who have often being excluded from ongoing educational opportunities because of their distance location. This paper outlines the initial considerations in planning and delivery of a forty-week postgraduate program to teachers in a range of locations in New South Wales, Australia, using a combination of asynchronous and synchronous delivery tools. This paper examines the development of the program from its original on-campus only mode to one that is accessible to all teachers. It considers the issues faced by researchers in developing and designing the program, in acquiring an understanding of technology in a seamless manner, and the engaging of all students in robust and meaningful learning opportunities which promote a deep and strong conceptual understanding of the program content. Additional challenges posed by this program, including pedagogical shifts for staff and the physical capacity of organisations to respond to the structural and systemic demands of on-line programs will also be addressed. Over the next five years of the program, the researchers plan to investigate the effectiveness of a range of pedagogical frameworks and tools that promote student engagement, and enhance quality of learning outcomes.

Keywords: synchronous delivery, asynchronous delivery, teacher education, special education
The Influence of U.S. and South Korean University Students’ Involvement in Social Networking on Teaching and Learning

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Abstract: Higher education institutions are on a continuous search for creating knowledge and educating students. In order to do this it is important to understand backgrounds and attitudes, towards both academic and social life. The development of the Internet and social media has significantly influenced this quest. Although many discussions have developed about social media used in education institutions, very limited academic research has been done on interactive tools in learning design. Social media is rapidly changing the way people interact with each other. It provides higher education institutions opportunities for new levels of engagement with prospective students, alumni, donors, and community members. It also creates unique opportunities, and challenges, for connecting with the student community and for innovative teaching and learning. Many researchers argue that social media holds great potential for improving teaching and learning through creating student-centered learning; promoting collaboration among students; supporting individualized learning; providing an enjoyable learning experience; and enabling flexible learning schedules. With the growing interest in social media in education, an increasing yet still small number of academic studies on social media in higher education have been conducted. Teaching effectiveness has been investigated extensively in traditional classrooms for more than seven decades. But over the past years, research has become directed toward teaching effectiveness in online or virtual classes. The purpose of this study is to identify the impact of social media and the strategies for using it in a constructive way in U.S. and South Korean higher education. It aims to investigate the use of social media in the real settings of higher education to gain a deep understanding of the complexity of this issue. The study will define Chickering and Gamson’s (1987) seven principles operationally in relationship to traditional and online classroom. Two theories, Bandura’s (1977) Social Learning Theory and Vygotsky’s (1978) Social Development Theory will be utilized to understand learning through social media. To make a meaningful impact on student learning, it is important that faculty under-
stand the "net generation" students’ changing values, needs, behaviors, and learning styles. Researchers propose that this new generation of students has shaped a culture of learning shifting from a teaching centered focus to student centered learning design which demands greater student engagement. This study will also identify how organizations are using technology and social media and how to teach students to use their technology skills to make positive contributions to society. A survey will gather data comparing student and faculty uses of Facebook and their perceptions of its utility as a classroom support tool in U.S. and South Korea. This survey will be implemented during the Spring 2012 semester, utilizing on-campus email accounts and a survey hosted on SurveyMonkey.com a commercial survey-hosting website.

**Keywords:** social media, higher education, social learning theory, social development theory, seven principles of good education
Abstracts only
Implementing Blended Learning Tools and Techniques to Enhance the Student Experience Within the Traditional Learning Environment

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Abstract: This paper will propose a “toolkit” to enable teaching staff to successfully implement appropriate tools & techniques where the online mode of delivery no longer simply enhances face-to-face teaching, but augments it and becomes a key part of the blended delivery of traditional taught academic units. Feedback from students indicates that they prefer structure, consistency and regular tutor engagement within the virtual learning environment where it supports face-to-face teaching. (SSU NSS and YourCourse Survey, 2010). It is recognised that usage across academic units within the University’s VLE (myCourse) could be improved to address the feedback from students (highlighted in the above surveys) and, as such, highlights the need to provide teaching staff with appropriate support to address these issues. As a result of research previously undertaken via the HEA, Discipline-focused Learning Technology Enhancement Academy (DfLTEA) funded project 'Working with E-Champions to Develop Flexible Learning' in 2010/2011, which looked at engaging students & developing student skills in a blended learning environment, the BLAST group (Blended Learning Action Support Team, Southampton Solent University) identified that tutors teaching within the blended learning environment are not trained in teaching methods suitable for blended learning course delivery. The DfLTEA Project developed a Blended Learning Framework which identified 4 stages tutors can adopt when teaching on such a course. In addition, the university has invested SDP funding to develop Solent Online Learning (SOL) and associated support materials, which focuses on the flexible, professional and distance learner. However, it is clear that further development is required to support teaching teams where the online environment goes beyond simply supporting traditional face-to-face teaching and includes more innovative assessment methods. A number of resources will be drawn upon to influence the design of the toolkit, including models already piloted through JISC projects and current research in the field. The toolkit aims to operate on the 4 stage design that was developed as part of the DfLTEA project and will include the following elements: • Mapping – find out which design is most appropriate, what tools can used and how.
Abstract: The twenty-first century, with its user-friendly computer technology, availability of digital media, and “techno-savvy” students provides an ideal platform for the delivery of online courses. The online Human Physiology courses offered by the Department of Physiology at the University of Toronto (www.physiology.utoronto.ca) provide quality learning experience, convenience, and flexibility. These courses are delivered on Blackboard with captured videos in a supportive, user-friendly course environment. The courses also give students more flexibility in terms of time and location, allowing self-directed learning within a semi-structured framework. There are two types of online physiology courses. The first one is an online distance course in which the student population is diverse in terms of their academic background and geographical location. Many of the students in this course are taking the course for career advancement as many of the health care professional programs require a physiology. The second online course is taken by on-campus students who are in the undergraduate professional programs such as Medical Radiation, Physician Assistant and Pharmacy. While the course content and delivery is identical in both online distance and online on-campus courses, we found that their learning experiences, their performances and learning styles are very different. These differences will be compared between online distance and online on-campus courses.

Keywords: online distance learning on-campus human physiology
A Technology-Mediated Framework for Blended Learning - a Case of Non-Traditional Learners at Contact Higher Education Institutions

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Abstract: There is an increasing dichotomy between higher education institutions (HEI) widening access to higher education, soaring costs of education, students having to work full-time to pay for their education and enhancing students' learning experiences. There is therefore a need to rethink delivery and pedagogy for teaching students enrolled in blended programs. This paper explores the appropriation of emerging technologies to enhance delivery of a blended program for non-traditional learners. Thus, the paper aims to propose a technology-mediated framework for teaching students enrolled in blended programs. Methodology: Critical reflections from 20 blended learning educators across different disciplines based at a traditionally face-to-face (F2F) higher education institution (HEI) were solicited. The identified challenges informed the design of an appropriation framework of emerging technologies which was implemented in three case studies of blended programs: the first case involved 18 students from 6 countries enrolled on a postgraduate in the Faculty of Education at a HEI. The students engaged online with one another and with content for one-month, and later attended a 6-days F2F session. The second case, involved academics from 4 institutions enrolled for a professional development course. The professional course involved 2 days of F2F sandwiched with online sessions in which students made presentations in response to a task assigned to them during F2F sessions. The third case, involved business students enrolled for an MBA at an Australian University. Theoretical framework: Salmon's five-stage model coupled with lessons from cases 1, 2 and 3 are used to design and propose a technology-mediated framework for effective delivery of blended learning. Methodology: the data was gathered through student evaluations, content analysis of artifacts generated in form of subject submissions, and reflections by educators. Results: The paper illustrates the use of a blended framework to enhance teaching, learning and student-contributed resources in blended programs. The paper concludes that non-traditional students learn through sharing their own experiences and the use of technologies provided a way of creating a
safe learning environment where the sharing of experiences lead to rich learning resources that could complement formal learning

**Keywords:** blended learning; emerging technologies; face-to-face

**It's There: do we use it?**

*Moshe Roth*

**EFL Unit: Ben-Gurion University, Be’er Sheva, Israel**

**Abstract:** Approximately 2,000 of the courses offered each semester by Ben-Gurion University of the Negev (Be’er Sheva, Israel) can be found online using one of two tools: Moodle or HighLearn. (The latter is currently being phased out in favor of the former.) This research (in progress) attempts to answer two questions. Firstly, is there any correlation between the number of online courses a full-time student has in a given semester and his/her utilization of the online tool? (It is worth noting that Israel is second in the world in internet use. Approximately 74% of the population is hooked up spending an average of 38.3 hours a week online.) Second, do teachers take full advantage of the online tool using all the features it has to offer? A two-part questionnaire was designed. The first part asked for the full-time students' number of online courses versus the total number as well as if they feel that HighLearn/Moodle is beneficial to the learning process, how often they logon, if they logon when off campus, and make use of the bulletin board (where students can post messages) or learning groups (where students can study together) features. Part two probed teachers' employment of HighLearn/Moodle (i.e. are assignments and grades posted or if the various Collaboration tools (e.g. forums - where teachers and students can discuss issues related to the course- and polls) are used. All but one of the questions were multiple-choice. (Students were given the opportunity to fill in their own answer if they deemed none of the choices satisfactory. This option was not used often.) The data was analyzed and placed on bar graphs. Preliminary results (235 students) show there is no correlation between the number of courses online and online-tool use. Both students with 100% or only 20% of their courses online showed high use of HighLearn/Moodle. Most feel that online access to the course enhances the learning process and logon at least once a day, some even more than once a day with a smaller group logging on two to three times a week. More than 95% logon when off campus. However the
bulletin board and learning-groups features were underused. Analysis of the second part showed most teachers do not use the online tool to the maximum. Assignments and grades are posted but hardly anybody took advantage of the poll feature. In addition, cases of teacher misuse were found. An important ramification of this research is teachers need to make better use of online learning tools; they are not just more advanced ways to get material and information to students.

**Keywords**: online learning; use of online-learning tools; teachers; students; Likert scale

**Learning Vocabulary in Context Using a 3D Collaborative Virtual Environment**

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**Abstract**: This case study explored the effects of 3D virtual reality-assisted language learning and immersion on the vocabulary acquisition of children engaging in EFL (English as a Foreign Language) studies. This program was implemented in the context of a collaborative virtual environment (CVE) termed Active Worlds. Results showed that this program facilitated acquisition and identification of vocabulary and learning of spelling, as well as assisted in improving attitudes toward language learning, particularly with regard to learning vocabulary. Five children participated in the program, which comprised various activities implemented in Active Worlds (AW) and linked to Moodle (Modular Object-Oriented Dynamic Learning Environment). The assessments were repeated over the duration of one semester. The vocabulary words were taught using online activities. Target word acquisition was observed and assessed by an instructor and researcher who acted as participant observers throughout the intervention. Various data collection methods and sources were used to triangulate valid data and consolidate the research outcome. This study employed both direct and indirect vocabulary instruction to provide opportunities for learners to actively engage in authentic contexts and experience exposure to language and use of vocabulary. Students were supplied with contextual and visual information and clues to identify and generate vocabulary, and taught new vocabulary in a variety of different contexts. Students were also taught to use new words in context in Active Worlds (AW), and to identify and gen-
erate vocabulary words in post-task activities in Moodle. The results of this study and those of previous research support our belief that vocabulary acquired through engaging in contextual learning, interaction and negotiation, supplemented with communicative tasks and instructional strategies, can enhance young learners’ grasp and knowledge of vocabulary. The effectiveness of the program is linked to the performance of students in absorbing and expressing knowledge, as well as identifying and generating vocabulary.

**Keywords:** 3D, collaborative virtual environment, vocabulary learning

_**An Online Language Learning System Empowered With AR Interface and Street View Panorama**_

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**Abstract:** We propose a novel online language learning system that enables users to interact through intuitive AR interface and be immersed in any street view panorama around the world. The best way to learn a language is to immerse in the language environment and interact with people using the language. We utilize the latest technology of augmented reality (AR), panorama and object movie so that online language learners can naturally interact with virtual objects and be completely immersed in a 3D virtual environment to enhance their language learning experience. The AR technology can mix up virtual objects and real scenes to enhance the interactivity and immersion between users and computers. Thus AR is ideal for language instruction and learning in that users can involve themselves in a virtual scenario and their desires for learning can be inspired. In addition, the object movie technology enables users to look at an object from arbitrary viewpoints. We design an AR interface so that users can grab and manipulate virtual objects in a language learning activity through either AR markers or free-hand gestures. Vocabulary translation and pronunciation can also be easily triggered by users through pointing finger at the word. The panorama technology enables users to look around a scene from arbitrary viewing angles. Google maps with street view contain huge amounts of 360-degree street-level images of most popular places around the world. We propose to download street view images upon request to construct panoramas around the world in that multiple users can explore, dis-
cuss, role-play, or play games in an online language learning class. Learners can freely navigate in and interact with the virtual space through either wiimotes or free-hand gestures without the trouble of using keyboard and mouse. We explore the potentials to enhance online language learning with the help of the latest AR technology. The educational theory behind the proposed system is collaborative learning, communicative language teaching, and constructivist learning design. The goal of the proposed work is to shed new light on the understanding of the interface between language learners and AR technologies.

**Keywords:** language learning, augmented reality, street view panorama