Fostering scholarly investigations of teaching and learning to enhance education at NUS

CDTL Talks 2017|2

23 Nov 2017 | Thursday
9.00 am – 12.40 pm
CDTL Dewey Room

9.00am – 9.20am

An Evaluation study on the Impact of students' use of e-Portfolios on their Learning Attitude and Academic Writing – a Case Study

Dr Misty Cook
Centre for English Language Communication

Ample research has substantiated students’ positive perceptions, attitudes and behaviour when using an e-portfolio to support their learning and assessment (Lopez-Fernandez & Rodriguez-Illera, 2009). The objective of this research project is to evaluate the effectiveness and efficiency of learners using e-portfolio as a platform to commit to self-regulated/independent learning by maintaining a record of their work, to reflect and to feedback and monitor their writing performance in process writing. This presentation will specifically focus on the rationale for the research, and findings taken from pre-course/post-course surveys of students’ attitudes towards using the e-portfolio to facilitate learning.

9.25am – 9.45am

Designing and Evaluating a Serious Game for Safe Administration of Blood Transfusion: an Integrated Learning Strategy with Simulation

Ms Cindy Lee
Alice Lee Centre for Nursing Studies

Patient safety is paramount in nursing education. This study aims to design and evaluate the effectiveness of serious gaming in enhancing the knowledge, confidence and skill performance of nursing students in management of patient requiring blood and blood product transfusion. A clustered, randomized controlled trial was conducted with undergraduate year two nursing students. The experimental group demonstrated significant improvement (p<0.001) in the post-test knowledge and confidence scores as compared to baseline. Between group comparisons indicated that experimental group had significant improvement in post-knowledge and confidence scores as well. The participants rated the serious game positively. This study has demonstrated the effectiveness of serious games in enhancing knowledge and confidence of nursing students. Serious gaming provides a promising way to optimize effective learning when blended with didactic teaching and simulation. It has the potential of improving management of patient requiring blood and blood product transfusion, which in turn translated into better patient outcomes.

9.50am – 10.10am

A Quantitative Study of the Role of Active Learning and Engagement in Improving Environmental Engineering Students’ Learning Performance

Asst Prof Olivier Lefebvre
Department of Civil & Environmental Engineering

The objective of this study was to identify and quantify the key mechanisms through which active learning can enhance the students’ level of engagements as well as their learning performance, in the context of environmental engineering. Despite the limitations of the small sample size, positive relationships were observed between active learning, engagement and learning performance. The results provide empirical support for our conceptual framework and reveal that the use of active learning techniques promote a greater degree of interaction among the students as well as with the lecturer leading to a better learning experience overall.
10.15am – 10.35am
Improving Professional Skills and Academic Results in Service Learning through Peer-Feedback and Self-Reflection
Dr Andi Sudjana Putra
Engineering Design & Innovation Centre

Service learning allows students to enrich their learning experience and to leverage on it to develop their professional skills, such as collaboration and communication. Other than relying on student’ self-perception at the end of the programme, assessment of how professional skills have been achieved has not been well-explored. As such, giving feedback to students during the programme becomes difficult. In this project, a tool has been developed to provide peer-feedback during and after the programme and to facilitate self-reflection based on Perry’s scheme of cognitive development. Subsequent study demonstrates that students’ professional skills and academic results have been improved.

10.40am – 11.00am
Tea Break

11.00am – 11.20am
Using Digital Storytelling to Improve Undergraduates’ Design Thinking Capability
A/P Oh Lih Bin
Department of Information Systems & Analytics

Design thinking capability is widely regarded as a critical competence for students in the applied disciplines. This study examines the effectiveness of digital storytelling as an instructional method to improve undergraduates’ design thinking capability. Data was collected from 35 undergraduate information systems students in a service system design course. The course project involved the creation of a multimedia digital story to describe the design of an innovative IT-enabled solution to solve business problems in the service industry. We performed a qualitative content analysis of the students’ project experience reflections to uncover evidence of positive learning outcomes. Results suggest that digital storytelling has helped students to cover the stages of design thinking process effectively and students also indicated that the approach is interesting and enjoyable. We offer some suggestions for the effective use of digital storytelling as a pedagogical tool to enhance students’ design thinking capability.

11.25am – 11.45am
Development of Augmented Reality Sandbox for Experiential Learning in Natural Sciences
Dr Nawaz Mohammed
Department of Geography

The Augmented Reality (AR) Sandbox provides a basis for experiential learning through cutting-edge visualization of geographical phenomena which can be recreated at ease and enhances interactive learning through the active participation of the students. The proposed project was aimed at developing an AR Sandbox with a modified design to accommodate mechanisms to perform simulations of earth movements.

We have developed and calibrated the AR Sandbox. The apparatus had a Microsoft Kinect 3D camera, a projector, and two freely distributed VR applications for UNIX platform. The AR applications transform the box of sand into a water-filled landscape that responds to changes in topography. Tutorials and laboratory activities shall be designed based on this apparatus for several modules which shall bring experiential learning to the classes in physical geography at NUS.
11.50am – 12.10pm

**Developing Responsible Learners**

Dr Satyen Gautam
Department of Chemical & Biomolecular Engineering

Creating responsible learners is one of the key education challenges of our time. Education literature suggests that for students to see themselves as active and necessary participants in their own learning, it is important that they view themselves as stakeholders in education. To facilitate students taking ownership of their learning, instructional activities including peer assessment, course review & content selection, and reciprocal peer teaching were explored in conjunction with classroom teaching. This presentation discusses the rationale, methodology, outcomes, challenges and future directions of the project.

12.15pm – 12.35pm

**HubTurbo-EDU: A GitHub Adaptor for Managing a Large Number of Student Projects**

A/P Damith Rajapakse
Department of Computer Science

GitHub ([http://github.com](http://github.com)) is a leading online software project management tool we use in some of our Software Engineering (SE) modules. In this project we attempted to create a software application called HubTurbo-EDU to provide a more student-friendly and instructor-friendly interface to GitHub. The project succeeded in building such a tool, and in the process, discovered areas to improve in the SE competencies of our students. That led to a revision of our main SE module. Students who went through the revised version of the module showed a significant improvement in their SE skills.

12.40pm

End of Talks