



T1. Three Years of Flipped Teaching Law - Methods, Results and Recommendations

Prof. David DONALD

Faculty of Law

During first terms of the 2015/16, 2016/17 and 2017/18 academic years, I taught three, 165 minute flipped sessions each week to what is now a total of 540 law students. I used lectures recorded on PowerPoint "shows" and worked through detailed tutorial problems in class. I also created three video "micro-modules" on important concepts and distributed them through Google Drive. Students' test scores for the first two years dramatically increased (the last year is still underway).

Course and Teaching Evaluations and an independent survey I conducted bind through a TA provided valuable information on how students reacted to the extra work of listening to my recorded lectures and having to stay alert to follow discussion of the tutorial question during the class meeting. Active learning was a very new and sometimes disturbing experience for many of them. My own experience has been dramatically improved, as I now know my students and can gauge their abilities and improvements from week to week.

I will share my methods for teaching this course over three years, the technology used, my personal experience as a teacher comparing traditional lecture and flipped teaching, the effect on students' performance, and their reactions (other than as shown through academic performance).





T2. Examining of the Effectiveness of Audio-visual Teaching Materials for Language Learners

Dr. Siu-lun LEE and Chi Leung CHAN

Yale-China Chinese Language Centre

This project compares different combinations and arrangements of teaching-training models, as well as different formats of presentation of the online materials and find out effective models in designing online audio-visual materials for blended classes in teaching Cantonese as second language settings. This project examines the effectiveness of a MMCD scheme 1 project (2015-2016) named “Development of audio-visual teaching materials for second language Cantonese learners”. This project tests and examines various arrangements and formats of linguistic knowledge teaching and language skills training (teaching-training) based on the content and platform developed from the MMCD scheme 1 project (2015-2016). The different arrangements and formats will be tested on 3-5 experimental groups for one academic semester in order to find a model or models of teaching-training combinations will be relatively more effective in context of teaching Cantonese as a second language to international students. Experimental research methods such as pre-test and post test to test the effectiveness. Focus group discussion will also be carried out to seek qualitative data on the different models.

MMCD scheme 3: eLearning Pedagogy Research
MMCD project code: 3210815





T3. Regularization of Fundamental Chemistry Knowledge through Online Interactive Video Micro-modules

Prof. Steve TSE

Department of Chemistry

The foundation chemistry courses play a crucial role in programmes run by the various Science Departments and also in that of the General Education Foundation. However, the development of these foundation courses met new challenges with the recent implementation of the 4-year curriculum and the Hong Kong Diploma of Secondary Education (HKDSE) framework. Due to the vast differences in secondary education that students receive, it is extremely complicated to construct foundation courses that effectively prepare them all for their subsequent classes whether in the Chemistry Department or in other Departments. To resolve this issue, the Department of Chemistry aims to incorporate eLearning materials, such as micro-modules and a flipped classroom strategy, into one of the foundation courses, (i.e., Principles of Modern Chemistry; CHEM 1070). Videos from a comprehensive series of Chemistry lectures will be provided to the students online so that they can study the relevant materials at their own pace. To encourage utilization of these online resources, and assess the effectiveness of our various strategies when applied specifically to Chemistry courses, students will be tested on the eLearning materials. The knowledge learned from this project will facilitate the application of eLearning strategies to other courses in the Chemistry Department, and will provide invaluable information for courses organized by other Departments as well as other general educational activities in Hong Kong.





T4. Study Tour for High-school Students and University Science Students

*Dr. Po Kin LEUNG, Prof. Ming Chung CHU, Dr. Alvin Hoi Tik LEUNG,
Shu Yan LAU and Man Hoi WONG*

Department of Physics

In the last summer, we co-organized with the HK Science Museum a study tour for 20 high-school students, with 15 university Science students as group leaders. We visited several research facilities in the US, Grand Canyon, and observed the total solar eclipse. It took a whole year to prepare for and organize the trip, and we have learned a lot in the selection of students, preparation, and the tour itself.

The selection process of the high-school students was a competition of several rounds. The students had to demonstrate their basic knowledge and interest in Astronomy and Earth-System Science. The selection process of the university students (who serve as group leaders) was mainly interviews. We chose students based on their scientific knowledge, willingness to share with others, and maturity. By mixing three university students from different disciplines with four high-school students, the goal is to facilitate the learning for both groups of students. We will share in this talk about the details of the processes, and whether our plan worked out.

We also spent lots of time to plan the itinerary. We will share the underlying thinking of the design, and the difficulty that we faced. One important lesson that we have learned in the trip is the importance of including time for experience sharing. The time is essential for the students to consolidate what they have learned and experienced.





T5. Effective or Ineffective: The Application of Virtual Reality (VR) Technology in the Development of the Innovative Learning Tool for Experimental Skills Training

*Dr. Florence Mei Kuen TANG¹, Prof. Yiu Wa KWAN¹, Prof. Hui ZHAO¹, Prof. Ellis FOK¹,
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Science in Biomedical Sciences Programme (JS4550) was launched since academic year 2016 by School of Biomedical Sciences, Faculty of Medicine. Biomedical research is the study of investigation of the new solutions to cure human illness. To strength the broad-based knowledge in biomedical sciences, teaching in research techniques, including animal handling, theories in electrophysiology, cell cultures, basic histology, transgenic technology and proteomic, are essential to introduce students before the laboratory induction. The use of animals in experiments is a common practice in clinical laboratory research. It, however, raise concerns related to animal welfare and ethics in animal research. This programme is consistent with worldwide ethical standards and contributes to animal welfare and the humane use of animals in effective biomedical research, i.e. it teaches the 3Rs (Replacement, Reduction and Refinement).

This proposed learning courseware has been embedded into our project which aims to develop a lively learning environment and mobile application, called “electronic techniques in practice (eTips).” Regarding the animal ethic, the experimental animals are suggested to reduce their usage number, especially for the laboratory skills practicing. The VR technology is used to create an alternative training environment. In this pilot study is to target in reducing the number of animals used and any suffering caused by students in the practical laboratory. We will further perform the courseware evaluation which is based on questionnaires and group interviews to explore whether it

- can be applied and used as an educational tool for the training the technical skills;
- can facilitate and deepen experiential experience of the new learners; and
- can make students’ awareness for the concept of 3Rs in their future research study.





T6. Teaching Health Emergency& Disaster Risk Management Using Massive Open Online Course and Face-to-Face Classrooms: Building a Global Humanitarian Response Community

Zhe HUANG, Gloria Kwong Wai CHAN and Chi Shing WONG

Collaborating Centre for Oxford University and CUHK for Disaster and Medical Humanitarian Response, The Jockey Club School of Public Health and Primary Care

CCOUC research team taught health emergency and disaster risk management through a face-to-face and an online course, aiming to i) examine what factors may affect course completion among online course students; and ii) understand students' learning experience, course perceptions and outcomes in face-to-face and online format.

Data from students of online course (registration, Moodle log, evaluation and follow-up survey) and face-to-face classroom (pre-course and post-course surveys) were collected. Ethics approval was obtained from CUHK and consents sought from each participant before survey. Descriptive analysis, chi-square test and logistic regression were conducted.

This project recruited 3,457 online students from >150 countries, mostly in disaster-prone areas. The course completion rate was 20.6%. Males and students with healthcare qualifications were found more likely to complete the course, and time spent on the course was significantly associated with course completion after adjusting for gender, age and education level.

Additionally, 22 and 392 students from face-to-face classroom and online course were followed up. Although no significant difference in course achievement was observed between face-to-face classroom and online course participants, the former format was more preferred among all participants. Flexible time management and location of study were reported as two advantages of online course while more interaction and in-depth content the merits of face-to-face teaching.

This study suggests implementing multiple tools (e.g. webinars, videos and audios) and more discussion platforms could improve knowledge transfer and build up a wider study community, while face-to-face classroom and online course should be combined to create a better study environment.





T7. A Partially Flipped Class in Physics Supported by e-learning: Report of an Experiment

Prof. Kenneth YOUNG and Otto A HANNUKSELA (co-author)

Department of Physics

A postgraduate physics course was taught in a partially flipped mode. Lectures covered only the skeleton and time was freed for discussions. Students liked the pedagogy, and were willing to learn on their own. More content was covered than would otherwise have been possible. Detailed lecture notes, approximating a book, were provided; ensuring that students read the 'book' was a key element of the strategy. The course emphasized lecture notes rather than video lectures due to its Cartesian (rather than Baconian) nature.

T8. Credit Bearing Experiential Learning Course for Physics Majors

Dr. Alvin Hoi Tik LEUNG

Department of Physics

Undergraduate science classroom teaching traditionally focuses heavily on the transmission model of teaching and learning in which professors lecture and students learn passively. Such a model may work well for the transfer of technical knowledge but may be far less effective in developing students' generic skills such as communication and teamwork skills. To enhance the generic skills of physics majors, the department of physics launched a new overseas summer study tour combining hands-on total solar eclipse observation, science outreach and visits to cutting-edge scientific facilities. Apart from learning forefront scientific research, participants also experienced the importance of collaborative work throughout this trip. In particular, this programme provides a unique opportunity for participants to work in small teams and disseminate scientific knowledge to diverse target groups. This trip serves as an example on how experiential learning can complement traditional classroom learning in bringing about more positive learning outcomes for students.





T9. Implementation of Commercial-Off The Shelf Digital Game-Based Learning in Higher Education

Dr. Kai Ming KIANG and Dr. Baldwin WONG

Office of University General Education

We have adopted the commercial-off the shelf (COTS) digital game-based learning (GDBL) approach in the teaching of the two general education foundation (GEF) courses. In this gamification approach, “quality is maximized by leaving the design of game play up to game designers and the design of learning up to teachers”. The game we used is called Civilization, which is a popular and acclaimed strategy video game series that allows one to make decision to build and to lead a nation to flourish in a simulated world. The game has received many awards internationally and has been used by other educators around the world as a learning tool. Based on our experience, playing the game can stimulate our students to think and integrate the various great ideas of humanities and sciences that they have learned in the two GEF courses. As there is insufficient class-time to introduce in-depth historical and social background of the classic texts, as an optional assessment, this game can allow students to learn more in their own outside class time. It also can increased students’ interest in the topics and resulted in reading more, not less, of the course materials. Moreover, in general, the game helps students to gain the 21st century skills, such as problem-solving skills, initiative in learning and technology literacy. With a well-established international network, playing this game even help students to connect to other participants of the rest of the world at home. We will share the experience of implementation and some preliminary evaluation results in this presentation.





T10. Enhancing Teaching through an Interactive Course Design on KEEP

Prof. Irwin KING, Bo ZHU, Antonio CHEUNG, Eddy YET and Cathy LI

Knowledge & Education Exchange Platform (KEEP)

KEEP (Knowledge & Education Exchange Platform) is a UGC-funded project for empowering educators and learners with impactful resources and innovative technologies for lifelong education. Teachers from local universities and outside has hosted 200+ online courses on KEEP, creating an interactive and convenient environment for 12,000+ students to learn effectively.

New features are rolling out on KEEP, giving teachers more ways to engage their students in learning. The Peer Instruction tool allows students to consider alternative ideas from classmates before submitting the final answer. Flexibility in quizzes and exams, like question types and time limits, allows teachers to tailor-made learning activities and assessments for their students. The dashboard summarizes course activities and performance, guiding ways to improve course design and thus enhancing teaching effectiveness.

Users are reporting more benefits of putting their course online, including but not limited to more interactive knowledge delivery, more communication channels, better-prepared students, reduced administration costs and easier reuse of course materials. These also drive KEEP to thrive for refining our course platforms and ultimately support teachers in providing quality education.

Teachers and e-learning support units are welcomed to our parallel session for a demonstration on enhancing teaching effectiveness by employing KEEP tools. We also welcome inquiries at info@keep.edu.hk.





T11. Digest^{VR}: Turning Imagination into Reality

Dr. Ann LAU¹, Dr. Wai Kai WONG¹, Dr. Yuen Ken NG¹, Dr. Sam POON¹, Hugo CHEUNG², Tony WONG² and Janet CHAN²

¹School of Biomedical Sciences, Faculty of Medicine, CUHK, ²Contractors

A key challenge studying biomedical sciences is students need to use their imagination to relate the text-based content or 2D figures to real life situation where biochemical or physiological processes, like absorption of drugs, digestion and assimilation of food, travelling of molecules are in action within a 3D anatomical environment. The multidisciplinary nature of this subject also makes teaching and learning very challenging. An integrative and interactive approach is essential to make teaching and learning biomedical sciences motivating and interesting. The current project makes use of the fast-growing technology virtual reality (VR) on a Unity-powered platform to develop a pilot module “Digest^{VR}” on selected regions of the digestive system for multidisciplinary biomedical sciences teaching. Three-dimensional environment of the stomach was created and as a “map” on which teachers can furnish with information like histological structure, pharmacological and biochemical actions, physiological functions and pathological conditions in designated regions that can be holistically visualized in this Digest^{VR} “map”. Students can operate the system under a contactless mode by using the VR cardboard together with a mobile device. Learners can have the first-person experience travelling along the digestive system with a selected mode, at the same recognizing the 3D environment and changes in anatomical structures when travelling along different regions of the digestive tract. The platform also allows teachers to easily add and edit text- or image-based auto-marking questions at designated locations of the organ’s 3D environment. Digest^{VR} is a new generation tool with great potential to facilitate integrative learning and collaborative teaching.





T12. Hands-on Robotics Lectures

Prof. Darwin LAU and Samuel CHAN

Department of Mechanical and Automation Engineering

Traditionally, the primary method in the teaching of the fundamentals in undergraduate robotics is through lectures, where concepts, equations and examples are presented to the class. The difficulties with teaching a subject such as robotics through lectures include: (1) concepts are abstract and mathematical; (2) problems require 3-D spatial imagination while lectures slides are 2-D; and (3) content is difficult to relate with practice.

In this work, we present a new concept of hands-on robotics lectures. In this approach, lectures are taught in an interactive classroom where students, placed into small groups of 4 to 5, learn with a robot arm in front of them. The CUHK developed robot arm is also paired with an Android tablet application that is tailor-fitted to the course content. With approximately fifteen sub-pages covering a range of different, the app aims to complement the lecture content in the form of exercises or demonstrations. Students are not required to program the robot arms, but simply observe the abstract concepts and mathematical content on a physical robot.

Throughout the course, many benefits have been observed with this approach. First, a highly interactive teaching environment results, with teacher to student learning, peer learning and robot to student active self-learning. Second, students are more interested and alert as they are able to play with the robot. Third, students can gain a physical understanding of abstract concepts. Finally, the teacher can quickly observe the student's understanding. The preliminary teaching experience will be shared in this talk and poster.





T13. Using YouTube Analytics to Enhance the Video Teaching Effectiveness – A Case Study of ESSC Educational Videos

Dr. Wenzhu HOU, Dr. Tammy TAM and Dr. Andie AU-YEUNG

Earth System Science Programme

YouTube has become a major platform for educators to publish videos for blended learning. The statistics provided by YouTube, therefore, could be a useful tool to reveal students' behavior. In this study, by comparing the statistics of two series of newly produced educational videos for Earth System Science Programme, we expect to provide practical strategies to enhance the video teaching effectiveness.

Our first series of videos is aimed to showcase the key geological phenomena students would encounter during a geological field trip, and meanwhile to deliver the fundamental knowledge. The second series demonstrates the physical experiments for a better interpretation of important phenomena in atmosphere and ocean. Both series are informative. But the average durations (AD) of videos in the two series are different. The AD of videos in the first series is 2.16 minutes (1.00~3.40), however that for the second is 6.39 minutes (4.75~8.87). Among all the analytical results, we are specifically interested in the Average Percentage Viewed (APV) which could indicate the extent of information loss during the Teaching and Learning. The average APVs for the first and the second series are 66% (58%~75%) and 36% (18%~50%) respectively. Other statistics of the Audience Retention (AR) shows that the longer videos lost retention significantly in the first 20 seconds, but the ARs of shorter ones basically remain stable from beginning to end.

Based on our reported data, we suggest that (1) short educational videos could encourage a higher viewing percentage and (2) for longer videos, an attractive beginning may effectively help to keep the audience retention.





T14. Now You See Further from Giants' Shoulders, Then?

Prof. Hua-bai Li

Department of Physics

As a teacher of a research university, I believe that my duty is not only transferring knowledge but also helping students judge their ability to do research.

Going to graduate school, their mindsets have to change very abruptly from simply swallowing correct answers in textbooks to being very skeptical while, for example, reading journal articles. Being skeptical, however, is a luxury practice they can ill afford under the heavy university curriculum.

I will report an effort to integrate the flavor of research into PHYS4430, Astrophysics. The effort includes a published lecture note that introduces students background knowledge to read review articles from journals. From the literature, students identify open questions that they feel interesting and team up for proposals to tackle the questions.





T15. Enhancing Students' Cultural Competence via Interacting Across Cultures: A Series of Online Micro-learning Modules

Dr. Yvonne LOONG

Independent Learning Centre

In view of the global higher education trend of internationalisation, and aiming specifically to support our students at the Chinese University of Hong Kong on their overseas study and exchange programmes, the Independent Learning Centre (ILC) has developed a series of online micro-learning modules titled "Interacting Across Cultures" (IAC). One of the features of the IAC is that it caters to the specific needs of students from places of high-context cultures, such as Hong Kong and China, while developing their cultural competence at the academic, linguistic, personal and cultural levels to enable them to maximise the possible benefits from their study and exchange experience which usually takes place in countries of low-context cultures, such as the United States and those in Europe. Much of the emphasis is placed on the preparation students have to do before departure. The IAC series is divided into five micro modules (Module 1: Cultural differences; Module 2: Communication styles; Module 3: Achieving goals; Module 4: Culture shock and other obstacles; and Module 5: How to make sense of the experience), each requiring around 30 minutes' completion time. The content can be accessed via interactive webpages on both desktops and mobile devices. With appealing visuals, animation graphics, interactive exercises, reflection activities as well as further independent learning resources at the end, the modules aim at engaging and supporting students from before their departure until after they have returned to Hong Kong. The presentation will introduce the IAC micro-learning modules and how it can be used to support students' curricular and co-curricular activities.





T16. Strategic Training Ground for Future Public Health Practitioners

Carol WONG and Dr. Tony YUNG

Collaborating Centre for Oxford University and CUHK for Disaster and Medical Humanitarian Response, The Jockey Club School of Public Health and Primary Care

This presentation will describe how the field-based training programme of the Collaborating Centre for Oxford University and CUHK for Disaster and Medical Humanitarian Response (CCOUC) has been well-placed to strategically facilitate capacity building activities to train up the next generation of public health researchers and field-based practitioners.

The Nepal field based training programme evolved from the Ethnic Minority Health Programme (EMHP) in China, flagship programme of CCOUC, have both provided advanced technical training and been a field action laboratory for undergraduates and postgraduates of CUHK who aspire to plan, implement and evaluate public health and disaster risk reduction programmes in rural communities of less developed countries.

Using the training of trainer programme in Nepal as the case-study, the presentation will reveal the process of knowledge transfer to the student trainees with multidisciplinary background through workshops, training manuals and online courses; meanwhile, how the CCOUC team strives to identify communities which are affected by the earthquake with different intensity and is pragmatically using its resources to target and train the future practitioners using the frontline setting.





T17. An Innovative Pedagogical e-Learning Micro-module Courseware in Preparation of Objective Structured Clinical Examination (OSCE): The Flipped Classroom in Clinical Examination

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Under the MBChB medical curriculum, medical students are trained in 3-year preclinical basic sciences courses plus 3-year clinical skills courses. The Medical Year 4 students are regarded as the junior clerkships who participate in the first year of the clinical practice will receive the clinical training in Surgery and Internal Medicine. The junior clerkships will attend the Objective Structured Clinical Examination (OSCE) with every academic year end. The transition between preclinical and clinical training, however, can be challenging and stressful for students as they need to apply learned knowledge and find solutions solving clinical problems during the bedside training. Application of knowledge is crucial in clinical curriculum. Other than book knowledge, students also need to be drilled to inspect (look), palpate (feel), percuss (tap), and auscultate (listen). The increased cohort size around 240 medical students, nevertheless, challenge in the teaching and learning of clinical curriculum. While there is a limited resource in teaching students the proper to take patient's history, physician examination, and counselling skills, students may not be confidently prepared for the OSCE.

The modern pedagogical methods – *flipped classroom and micro-modules* – are a combination learning processes of e-learning activities with the face-to-face in the class period. It can be applied to strike a balance between the clinical skills training and OSCE assessment, which can facilitate medical clerkships to grow on their clinical competencies. Therefore, the proposed new innovative micro-modules platform called The flipped classroom Clinical Examination (*Flipped CExam*) platform, would serve as an important learning courseware for medical students to gain important clinical skills essential for the success of their medical career.

The *Flipped CExam* aims to equip students with the accurate pre-clinical knowledge and essential post-clinical counselling skills for clinical examination and consultation. Clinical skills learning and teaching is a vital part in medical education. We not only develop an e-learning platform but also share the experiences to showcase Faculty teaching capacity. Students can map their learning process at the high-quality level of materials in this elearning platform.





T18. Designing Complex Micro-modules and their Impact on the College Service Learning Experience

Prof. Ann HUSS, Pauline DAY, Maytal MARK and Madison REID

Morningside College

In Term 1 (2017/18), Morningside College introduced a two-part interactive self-paced micro-module unit in the College's capstone course, GEMC3001 – Service Learning/Civic Engagement. The micro-modules were designed by the College's Junior Fellows (Teaching Assistants) and produced using Articulate® E-learning software. Production was supported by a courseware development grant.

In the first micro-module, designed to be viewed before a service learning project proposal is submitted, a student travels through the fictional town of Greenberg, stopping at charity-based, project-based and advocacy-based service organizations. During the journey, the student learns about the different types of service each organization provides and is encouraged to choose the type that best fits her/his skills and interests.

The second micro-module, which is meant to be viewed after the service learning project has been completed, helps the student think critically about the service learning experience so that s/he can confidently turn it into academic work. Students are led through a series of exercises culminating in the production of a project poster that is discussed afterward in small group meetings.

Our presentation will introduce the script-writing, design and production processes, followed by a preliminary review of the impact of these micro-modules on College Service Learning learning and teaching.





T19. Flipped Micro-Module for Professional Sports Skills Courses

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The Department of Sports Science and Physical Education (SSPE) is dedicated to electronic and flipped learning strategies, which are consistent with the University's strategic themes. Therefore, SSPE has committed to Micro-Module Courseware Development, not only in PE, sports science and health lectures, but also in professional skill courses (PSCs). In this project, eight short interactive and self-directed bilingual Micro-Modules have been developed in Swimming (Front Crawl, Breaststroke, Backstroke, Butterfly, Diving and Treading Water) and Cycling (Introduction of Bicycle and Gear Shifting); these were produced with SSPE students and course teachers on the CUHK campus. Each Micro-Module consisted of a 2–4-minute video emphasizing a particular sport's skills and assessments presented with Cantonese or English narration and descriptions and supplemented with three interactive questions to enhance the learning effectiveness of the students on the particular sport's skills. The Micro-Modules are uploaded to Blackboard for students to reference before and after class. Based on our Team's experience in Micro-Module production and application, we predict that the Micro-Module can provide further learning flexibility and serve as a reliable source of teaching materials for our students and that it can be used to evaluate their knowledge before and after class and enhance their learning progress. In addition, four more Micro-Modules on Woodball will be produced and applied in Physical Education Unit (PEU) classes in the second semester of 2017–18. The project will be closely monitored and evaluated by students, by collecting their feedback through an online survey and direct discussions during classes.





T20. Opening a New Window in the Instruction of the Humanities: The Overseas Fieldtrip App

Prof. Ian MORLEY

Department of History

A basic component of learning about society in the past is to undertake fieldtrips. Ultimately two intellectual principles are endorsed via fieldtrips in relation to knowledge production/curriculum design: discovery and construction. What is more an imperative element of studying the past/‘doing History’ is intellectual curiosity: successful courses that engage with the past routinely provoke intellectual yearning, i.e. a desire among students to ‘go beyond the book’, and in turn to marry inquisitiveness with skill development through private study. But how can a learner undertake a fieldtrip to a site given limits of time and money during the academic calendar? Or how can a learner be expected to undertake a fieldtrip if the place to be visited is considered ‘dangerous’.

To help overcome such challenges an app was composed which enables students of a Philippine History course to ‘visit’ Manila, and see at first hand renowned heritage sites. Financed by a Courseware Development Grant the app not only helps impart a learning experience potentially far more enjoyable than the lecture/tutorial scenario, because active learning is wholly encouraged, but in addition provides students with a supplementary window in which they can obtain feedback about their learning process, and its management. The new feedback thus offers students a chance to empower themselves further as they can *learn how they learn*. The app, in this milieu, helps grant cognizance of what they know, and how they came to know it.





T21. An Introduction to the Micro-Modules of Reflective Journal Writing for University General Education Foundation Programme (TDLEG)

Dr. Felix CHAO

Independent Learning Centre

The Micro-Modules of Reflective Journal Writing for University General Education Foundation Programme is a project funded by TDLEG 2016-2019. It is a collaboration between Independent Learning Centre (ILC) and University General Education Programme (UGE). The modules aim to teach students of the General Education Foundation (GEF) Programme a set of skills necessary for proper reflective-journal writing. The ILC has been collaborating with UGE in offering workshops for students on reflective journal writing since 2013. Each year, the workshops attract over 1000 voluntary attendances. In order to continue the good practice, to promote e-literacy and to enhance its quality by encouraging students to learn proactively and to think more critically about different subjects, a series of micro-modules is suggested. The modules involve combination of a trilingual online learning platform (responsive website) and corresponding workshops. The various aspects of reflective-journal writing—namely, its definition, its ways of analysis, the thinking process involved, the language requirements and the proper academic style—will be introduced through the online learning platform. Students will learn through guided video presentations, interactive and reflective exercises, suggested readings and writing submitted through the Platform. After students have gone through all the learning steps on the online platform, face-to-face workshops will be provided for discussion and further explanation on areas of greatest concerns. Feedback submitted by students through the online learning platform will be used by the ILC teachers to develop the content of the workshops.





T22. Communities of inquiry: Cultivating Collaborative Knowledge-building on An Undergraduate Course

Prof. Michael LOWER

Faculty of Law

The community of inquiry framework provides a template that can be used by teachers to design a teaching and learning environment emphasising a collaborative, constructivist approach to teaching and learning. Students work in small collaborative groups on research questions that they have chosen for themselves. They brainstorm, generate ideas and produce a joint response to the question. The community of inquiry approach is true to the idea of the university as a community of scholars. Students can learn to think critically and creatively and to present their ideas. They also learn to work collaboratively. Digital technologies mean that students can create blog posts, videos or podcasts to present their findings. They can cultivate digital literacies.

This presentation explains the use of the community of inquiry approach in an undergraduate law class in 2016 –17. Students were given the opportunity to work in small groups to produce a blog post, a podcast or a video. They could build on this work for their individual research coursework.

The students were asked to complete a survey after the end of the course. The presentation will present the findings from the survey and consider their implications for future iterations of the course and its general development. It will consider some of the challenges that can impede the creation and operation of collaborative, knowledge-building environments.





T23. A User-friendly, Cost-effective Workflow for Rapid Micro-module Production

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Even though the state-of-the-art technology and support for micro-module development are available, many of the teaching staff in the Faculty of Medicine are still reluctant to develop micro-modules possibly due to their tight daily schedule, limited computer skills, and feeling of intimidation by the advanced computer technology.

To advocate the adoption of e-Learning within the faculty, we had introduced a very simple micro-module developing workflow. We hoped this can provide our teachers the practical skills for making interactive e-Learning packages in a both cost- and time-effective manner. The workflow we adopted involved the usage of “Animation” and “Hyperlink” features of Microsoft PowerPoint on making simple interactions, an easy-to-use Text-to-Speech software for narration production, and a freeware for publishing micro-modules in the CUHK Blackboard compatible (SCORM1.2) format.

In 2015-2016, we launched hand-on workshops and seminars for introducing this workflow to our teaching staff. From our experience, our production workflow was well-accepted by our teachers. The workflow enabled them to produce simple but high-quality micro-modules in front of their computers within a few hours, which totally suited for any ad-hoc creation of new micro-modules despite their busy daily schedules. Furthermore, this workflow provided our teachers an easy entry point to adopt e-Learning in their teachings and an opportunity to gain more experience for future development of more sophisticated coursewares.





T24. Micro-modules for Pharmaceutical Dispensing: A Bi-lingual Micro-Dose Delivery of Concepts Involved in Dispensing Medications

Dr. Celeste EWIG¹, Mr. Alex YUNG², Ms. Yan JIN², Mr. Matthew HUI¹, Mr. Taylor TANG³, Dr. Isabel HWANG⁴

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Preparing students for their future roles as healthcare professionals goes beyond materials learned in a classroom setting. It involves teaching students the fundamental knowledge required, how this knowledge is translated into concepts, and the application of these knowledge and concepts to a patient.

One common challenge encountered was the students' difficulty in connecting what was learned in class to patient care. To address this challenge, we sought to integrate information from various modes of learning. Our objective was to encourage a broader yet cohesive understanding of the materials learned and introduce students earlier to the concept of patient care.

We developed micro-modules covering various topics related to the dispensing of pharmaceutical products. Each micro-module includes: 1) the key information students needed to know, 2) demonstration videos and illustrations of this information when applicable and 3) patient cases to illustrate the clinical application of the learning outcomes. Key concepts were linked throughout each micro-module to establish correlation within the subtopics. We also collaborated with the Department of Pharmacy of the Prince of Wales Hospital to create videos enabling students to appreciate the application of these concepts in the local practice setting. To further facilitate students' understanding, bi-lingual versions of each micro-module are available for students to select their preferred learning language while strengthening their English and Chinese (Cantonese) professional language skills.

This project demonstrates bridging the gap between classroom and clinical practice with the use of an integrated eLearning environment. Doing so strengthens the learning process, provides a more sound foundation of knowledge and encourages students to start thinking like a healthcare provider early on in their career path.





T25. Flipped Classroom in Course for Preservice Mathematics Teachers: Case Sharing of Frontline Teachers Through Micro-modules

Dr. Yip-Cheung CHAN

Department of Curriculum and Instruction, Faculty of Education

Apart from pedagogical theories, experience from senior practitioners in the field is equally important for students of professional discipline such as education. In order to increase the pre-service teachers' exposure to different real cases experienced by frontline mathematics teachers, micromodules incorporated with flipped classroom teaching approaches have been trail-run in the course "Subject, Curriculum and Teaching (Major: Mathematics)" which is a one-year course offered to students of Postgraduate Diploma in Education (Primary). Each micro-module consists of a video of 15-20 minutes. In each video, a frontline primary mathematics teacher presents the theoretical concepts and/or case sharing related to a specific topic. An online quiz is accompanied with the video in which the students will need to complete after watching the video and before attending the lecture. Furthermore, there are two reflection questions at the end of each module. These questions would facilitate the class discussion of the coming lecture. At this moment, five micro-modules have been fully accomplished. They are: (1) Primary math curriculum; (2) Planning math lessons; (3) Basic techniques on math pedagogy; (4) Use of teaching aids in math pedagogy; and (5) Preparation of Teaching Practice. More micromodules will be produced later. In this oral presentation, I will share to the audiences the features of these micromodules and my experience of implementation of this teaching innovation. It is hoped that this sharing can inspire colleagues of other professional disciplines to create micro-modules for their own courses. This ongoing project is supported by Micro-Module Courseware Development Grant (2016-17).





T26. SMART Assessment 2.0: Unfolding Student Expectations and the Approaches Adopted for Academic Performance

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The SMART assessment project was started in 2015, and meetings were held with teaching staff on assessment design and the perceived impact on student learning. With funding support from TDLEG 2016–19, an extended component was built in as a second phase of investigation. The focus was on student approaches to university study with respect to university curricula. The total number of students interviewed was 47, and their academic backgrounds included business, law, architecture, medicine, pharmacy, hotel/tourism management, education, global studies, religious studies, sociology, psychology and university general education. Two students were from Year 1, 14 from Year 2, eight from Year 3 and 15 from the final year; eight interviewees were studying for a master's degree. Factors affecting student approaches to university study include year (freshman versus final year), intake (Joint University Programmes Admissions System and senior year), professional preparation, individual aspirations, readiness to take risks, and students taking the initiative beyond the curriculum. By enabling a conducive learning environment, university educators play significant roles not only in establishing knowledge. More importantly, to facilitate the building of student competence, educators need to design how knowledge is structured so that students can combine hunches and personal interests with opportunities to discover, test, reflect, reassess and redesign.





T27. Teaching Cultural Diversity and Intercultural Capacity through Experiential Learning and University-Agency Collaborative Teaching

Kar Choi CHAN¹, Helina YUK² and Noel LEUNG³

¹Department of Social Work

²Former Director, SKH Lady MacLehose Centre – the co-teaching partner

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Globalization has made major metropolitans, such as Hong Kong, more ethnically diverse. The course titled “Intercultural Intelligence - Meeting the Challenges of a Culturally Diverse Society” aims at preparing undergraduate students for their future social or occupational roles in an increasingly diverse but interconnected globalized world, by developing their intercultural knowledge and capacity, through theoretical and conceptual exploration, experiential learning, cultural-based interpersonal assessment as well as reflective self-evaluation.

The uniqueness of this Social Work elective & University General Education (UGE) course is its emphasis on the integration of innovative thinking with experiential learning. The course is probably the first of its kind by having a well-established social service agency – SKH Lady MacLehose Centre- also a service leader in working with ethnic minority groups as a formal teaching partner in the pedagogical design. The social service agency is responsible for providing practical field knowledge and outside-campus experiential learning activities for students in areas relating to ethnic diversity and cross-cultural ability. Apart from site visits, guided community tours, and interviews with clients and stakeholders, students are required to work with mentors who are service staff from the co-teaching agency, in small group projects to study a particular issue or challenge faced by local ethnic minority groups, and to come up with innovative, feasible and culturally-relevant solutions or action plans in addressing the identified issue.

This presentation will highlight feedback and evaluation from both students and the co-teaching partner. Impact and challenges of this form of collaborative teaching will also be discussed.





T28. The Use of Social Media Platforms in the Classroom

Prof. Sandra MARCO COLINO

Faculty of Law

Students love social media. Incorporating the use of social media in teaching can greatly enhance their learning experience. Not only can the learning process be more fun and engaging, but feeding students valuable information through a channel which they are fond of and which they use regularly has been proven to encourage them to access and eventually retain that information. The use of social media also has external benefits. By posting useful information publicly, this tool can also help to showcase and disseminate the work carried out in academic institutions, and can be used to raise their international profile and reputation. However, to have internal and external value, the use of social media must be rational, carefully thought out and adequately tailored to meet the specific requirements of the field being taught. In this presentation, I will explain how I use social media in legal education. I will do so by sharing the experience I have gathered over 12 years, explaining the various ways in which I have integrated social media into the classroom and covering the "dos and dont's" of the use of such platforms in education.

T29. E-learning Software for Proof-type Problems

Dr. Leung Fu CHEUNG

Department of Mathematics

In university mathematics education, one key learning difficulty lies in acquiring the "language" of writing mathematical proofs. To tackle this problem, many books on "writing proofs" have been published in recent decades. In our project, we strive to automatize this kind of learning. Our idea is to make use of the open source software WeBWork to do it.

At present the WeBWork question bank has a rich collection of multiple-choice as well as fill-in-the-blanks problems, but lacks functionality to check the validity of a short written proof. In our project, we provide a way to do this by extensively modifying the capability of WeBWork essay-type answer box. As an example, our software program can "simulate" the grading of a student's proof of questions such as: If n is odd, m is even, then $n + m$ is odd. More abstract questions can also be handled.

This is our first attempt to simulate an automatic answer checker, which involves computer's understanding of mixed language code (i.e. codes involving mathematical symbols and human language).





T30. An Integrated Experiential Learning and Alumni Engagement Co-Curriculum

Dr Jie TIAN, Gentiana CHEUNG and Dr. Jacqueline WONG

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This project aims to create a structured co-curriculum that facilitates students' experiential learning and alumni's engagement in teaching & learning (T&L) at the School of Hotel and Tourism Management (SHTM or the School). The co-curriculum includes three independent and correlated modules linked to different major required courses (or T&L programs), featuring different learning activities, and targeting different student cohorts. The three modules adopt the same structure but can be implemented along separate timelines systematically and regularly.

Each module involves a contest that requires students to design, plan, and implement a learning activity. Module 1 features a study tour design contest mainly targeting Year-1 students (as participants). Module 2 features a cross-cultural learning event contest mainly targeting Year-2 students. Module 3 features an alumni interview video contest mainly targeting Year-3 and Year-4 students. In each module, students need to form teams and submit proposals. The winning team then needs to implement their plan in the real world. All modules are structured to connect real-world learning activities with the SHTM Intranet (Microsoft SharePoint site.) Intranet serves as a secure online platform for the School, current students, and alumni to launch learning events, submit proposals, share information, collaborate on team tasks, collect feedback, and store deliverable outputs in various formats (text, image, audio, and video).

