P1. Narrative Qualitative Assessment of Students' High-Level Thinking on Open-ended Problems

Dr. Kam Moon PANG, Dr. Julie Chu Lee CHIU, Dr. Xin GAO, Dr. Cherry To Kam LAM, Dr. Vivian Jun WU and Dr. Yang YEUNG

Office of University General Education

Students' ability to conduct objective analysis of facts and evidence, and ultimately to develop sensible, informed personal judgments, is an essential learning outcome of the two courses of the General Education Foundation Programme, namely, *In Dialogue with Humanity* and *In Dialogue with Nature*. Assessment of such ability, however, is a challenging task partly because of the lack of a well-established rubric to evaluate the skills concerned. In a Narrative Qualitative Assessment project conducted by teachers of the two courses in 2015-17, the Wolcott-Lynch Model was applied to assess students' high-level thinking on open-ended problems. Analysis of randomly selected student term paper reveals that 80% of students is of performance pattern 0 (Confused Fact Finder) or 1 (Biased Jumper). The project has also inspired us to explore an effective scheme to implement criteria for differentiating students' performance in high-level thinking.

P2. NQA-inspired Study on Students' Perspectives in Controversial Science Issues

Dr. Kam Moon PANG

Office of University General Education

The Narrative Qualitative Assessment (NQA) project aims to explore students' high-level thinking on open-ended problems and revealed that 80% of students is of performance pattern 0 (Confused Fact Finder) or 1 (Biased Jumper) according to the Wolcott-Lynch Model. This inspired me to implement a study on how students respond to a science-related controversial issue based on a selected excerpt from Carson's *Silent Spring*. Preliminary findings show that students are week in identifying an uncertainty in an open-ended problem and that their performance could be enhanced or maximized by peer collaborations and by inquiring students appropriate scaffolding questions.

P3. Micro-modules for UGFN1000 Classroom Flipping

Dr. Kai Ming KIANG, Dr. Jun Vivian WU,
Dr. Andy Ka Leung NG and Dr. Derek Hang Cheong CHEUNG

Office of University General Education

To facilitate classroom flipping, we have developed a suite of micro-modules for all 11 classics taught in the course In Dialogue with Nature over a period of three years with financial support by the Micro-Module Courseware Development Grant Scheme. In Dialogue with Nature is a compulsory general education foundation course for all students at the Chinese University of Hong Kong. It requires students to read science-related classics on their own, and to discuss core questions that arise from their reading, which are enduring in the history of human civilization. Students often report that the 1-hour lecture is insufficient to provide all the necessary background knowledge for them to handle the specific classic texts on their own. However, with this new suite of micro-modules, students can watch a variety of materials online if they wish to, at their own pace at home. These materials include: 1) Introducing the historical background of the text and the author; 2) Explaining the applications or the issues raised; and 3) Discussing the core questions raised in each text. These micro-modules were integrated as a course on The Knowledge & Education Exchange Platform (KEEP) which is available to our students. In this poster, we will show snapshots of the final product as well as some tips for the development of these micro-modules and the use in our teaching.

P4. Development of a New Questionnaire on the Cognitive and Affective Influence of Science Anxiety for a Science Core-text General Education Course

Dr. Wan Heng Sandy HOI[1], Dr. Wing Hung WONG[1], Dr. Kam Moon PANG[1] and Dr. Vitrierat NG[2]

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Science anxiety hinders students from effective scientific literacy and confident application of science skills to solve problems. It commonly arises when students take traditional science and science-related general education courses. “In Dialogue with Nature” is a compulsory general education course for undergraduates of The Chinese University of Hong Kong. It encourages students to engage in reading science texts and discussion about science-related issues, thereby building up confidence in seeing things from a scientific perspective.
Our previous study showed that having taken this course, students became less science anxious, and some aspects of Nature of Science (NOS) were brought up in focus group interview. This inspired the development of a new questionnaire to evaluate how science anxiety is related to students’ understanding of NOS (cognitive) and their self-efficacy towards science (affective). The new questionnaire has been validated and revised for the ongoing pre- and post-course surveys.

Keywords: Science Anxiety, Nature of Science (NOS), self-efficacy towards science, science core texts, general education, classics reading.

P5. Engaging Students in Close Reading: Implementation of PASS as Reading Workshops in the General Education Foundation Programme

Dr. Wai Man SZETO, Isaac Ka Tai WONG, Dr. Kenneth Ming LI, Dr. Vivian Jun WU, Dr. Amber Lo Ming YIP,
Ann Ka Yu LAI and Prof. Mei Yee LEUNG

Office of University General Education

The General Education Foundation (GEF) Programme, a common core programme consisting of two courses, namely In Dialogue with Humanity and In Dialogue with Nature, engages students in dialogues with the classics in the humanities and sciences respectively. Reading classic texts, however, are challenging for many students who are unfamiliar with the content, language and context of these texts. This poster will present how Peer Assisted Study Session (PASS), a well-established peer learning model, has been implemented as reading workshops in the GEF Programme to help students meet these challenges. The reading workshops are one-hour and weekly voluntary study sessions led by PASS Leaders. These are students who previously exceled in the same course and have completed their accredited PASS Leader Training. Facilitated by PASS Leaders via various reading strategies, the workshops provide a collaborative and supportive learning environment for students where they can learn and practice close reading of classic texts together. Feedback from the students has been positive and many find the workshops improve their understanding of classic texts, equip them with effective reading strategies, and enable them to read the texts on their own.

P6. Virtual Experiential Learning for General Education Foundation Programme

Dr. Andy Ka-Leung NG[1], Dr. Derek Hang-Cheong CHEUNG[1], Dr. Cheuk-Hang LEUNG[1], Dr. Samson Pak-Nin KWOK[1], Chi-Tat LI[1], Eva Siu-Ling CHEUNG[2] and Taylor Lik-Hang TANG[2]

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General Education Foundation (GEF) Programme, consisting of two courses “In Dialogue with Humanity” and “In Dialogue with Nature”, requires students to read classics which address critical problems and issues in human existence and knowledge; and to reflect on the meanings and values of being human, as well as the achievements and limitations of human understanding of nature. However, the discussion time in the conventional face-to-face classroom setting is limited, students may not be able to fully recognize the implications of the classics in current society and integrate the ideas of different thinkers towards certain issue until the term paper construction at the end of the semester. With the support of the Teaching Development and Language Enhancement Grants 2016-19, we are in the process of constructing a virtual experiential learning environment on a mobile platform to help students achieve the desirable outcomes at an earlier stage of the courses. The mobile app consists of five modules that cover around half of the classics from both courses of the GEF Programme. There is a script designed for a protagonist to engage in different challenging life scenarios (presented in the forms of animations, mini-games, moral dilemmas, conversations, and slide shows) in order to deal with essential issues and debates arising from the classics. In this poster, the progress of the project will be presented.

P7. Coupling Micro-modules with Online Discussion Forum: A Content Analysis Study

Dr. Derek Hang-Cheong CHEUNG, Andy Ka-Leung NG, Kai-Ming KIANG and Isaac Ka-Tai WONG

General Education Foundation Programme

E-Learning is a rapidly developing pedagogy in the universities worldwide. Funded by two MMCD grants, two sets of micro-modules have been developed in UGFN1000 “In Dialogue with Nature”, a compulsory general education foundation course for all undergraduate students. They aimed for supplementing the students with basic science knowledge that is essential for understanding the assigned texts as well as further historical and technical background knowledge related to the core questions. Since the micro-modules are still in the development stage in 2016-17, the usage of micro-modules is entirely voluntary in the course without coupling with any assessment item. In 2017-18 term 1, we couple the micro-modules with an existing assessment item, an online discussion forum, thereby making the micro-modules compulsory. This project aims to evaluate this mode of micro-modules aided teaching. Students’ learning outcome attainment and cognitive achievement will be measured through content analysis of the online discussion forum. The evaluation results would shed light on the effectiveness of eLearning in general education courses.

P8. Building Whiteboard Animations for Flipped Classrooms in GEF Courses

Dr. Kenneth Ming LI, Dr. Kevin Chi Wai LAI, Dr. Wai Man SZETO and Dr. Baldwin Bon Wah WONG

Office of University General Education

The General Education Foundation (GEF) Programme consists of two foundation courses, namely UGFN1000 In Dialogue with Nature and UGFH1000 In Dialogue with Humanity, which require all undergraduates from different disciplines to read and discuss the classics in science and humanity. Despite their interest in reflecting on the classics, they find it difficult to have in-depth discussion due to the lack of prerequisite knowledge and concepts. A lot of time in tutorial classes is thus used to explain the knowledge and clarify the concepts. In view of this, a pilot work was initiated to developed two micro-modules to flip the classroom in UGFN1000 using whiteboard animations last year. Whiteboard animations enable step-by-step illustrations with voiceover narrations to explain complicated and abstract ideas in an attractive and enjoyable way. The feedback from both students and teachers showed that the whiteboard animations are engaging and helpful in teaching and learning in UGFN1000. With these encouraging results and the positive feedback, we have expanded the flipped classroom with whiteboard animations in UGFN1000 in this year and extended it to the other GEF course UGFH1000 for the first time. A total of four short whiteboard animations have been tailor-made in two micro-modules, namely “Origin of Species” for UGFN1000 and “Ideal Society” for UGFH1000. The micro-modules are available online for students’ self-paced learning. The effectiveness will be assessed by conducting questionnaire surveys. This poster presentation gives an overview of the production of whiteboard animations and their use to flip the classrooms in the GEF courses.

P9. Experiencing Classics in UGFN through Rooftop Farming

Dr. Ming LI

Office of University General Education

In Dialogue with Nature (UGFN) is one of the courses in the General Education Foundation Programme which requires students from different disciplines to read and reflect on classics in science, such as Charles Darwin's On the Origin of Species, Rachel Carson's Silent Spring and James Watson's DNA: The Secret of Life. Although reading these classics is challenging, better understand could be achieved by various support including reference books, e-learning tools, peer-assistance, and discussion with teachers. However, the lack of direct experience of the contexts in which the ideas and issues arise may hinder full appreciation of the classics and their relevance to contemporary life. In view of this, an experiential learning activity of rooftop farming has been practised in one of the UGFN classes to foster deeper understanding and reflection of the students. This poster presents the practice of using rooftop farming for experiential learning in UGFN. In the practice, students can choose "Planting Discussion" as one of the options for "Other Participation" in the course assessment. They are required to discuss the excerpts from the classics and do hand-on farming practice on the rooftop of Hui Yeung Shing Building, CUHK. They are encouraged to share their reflection in discussion forum and written essays. Apart from farming techniques and the science behind, other topics including organic farming, seasonal vegetables, environmental protection, recycle and upcycle, development of local farming industry were also discussed. The feedback from students collected by surveys will be shared in this poster.

P10. Establishment of New Paradigm with Feasible Models in Teaching and Learning Science for Problem Solving and Future Development

Prof. Wai Yin POON[1], Prof. Kwok Keung Thomas AU[2], Prof. Ming Chung CHU[3], Prof. Liwen JIANG[4], Dr. Kin Wah Kendrew MAK[5], Prof. Pang Chui SHAW[6] and Prof. Teng Fong WONG[7]

[1]Centre for Promoting Science Education [2]Department of Mathematics [3]Department of Physics [4]School of Life Sciences [5]Department of Chemistry [6]School of Life Sciences [7]Earth System Science Programme

The rapid development of technology has changed the way students acquire knowledge and information. This project aims at engaging a large group of science teachers to explore the use of technology to enhance teaching and learning. As presented in Expo 2016, our teachers have developed a host of digital resources across various science topics and have adopted different models to use the resources to enhance students' learning. Some use the resources for flipped-classroom and the others use the resources to support students' self-learning. As early adopters of eLearning and "flipped classrooms", we are committed to share our experience and promote the successful practices. In the past year, we have paid much effort to disseminate our practices and have actively organized sharing sessions and workshops. Specifically, 23 of our project team members have joined the poster presentation of this year's ExPo and they will present a total of 10 posters to show case the works of our project. The topics of the posters are "Application of Virtual Reality (VR) Technology in the Teaching and Learning of Mitochondrial Functions", "Developing video learning modules for Cell & Developmental Biology", "E-learning Approaches of Earth's Systems", "Establishment of Flipped Classroom activities for Molecular Biology Laboratory Class", "Investigation of non-seed plants: a KEEP course promoting self-learning", "Micro-modules for Learning in Fundamental Chemistry", "Micro-modules in introductory Physics courses", "Promoting Physics by using e-learning materials", "Using YouTube Analytics to enhance the video teaching effectiveness – a case study of ESSC educational videos". Also, the Education of Hong Kong (EdUHK) is one of the collaborative institutions in this project. The representatives from EdUHK will share their experience on developing resources for flipped-classroom under the topic "Basic Statistics in Higher Education". The entire project has produced a total of 649 micro-modules by topic so far, including lecture videos, demonstration videos, assessment modules, and virtual labs. These micro-modules have been used in more than 50 courses and have benefited more than 8500 students. More details are available in the project website http://www.cuhk.edu.hk/cpse/testing/UGC/home.html .

P11. Micro-modules for Learning in Fundamental Chemistry

Dr. Kin Wah Kendrew MAK and Dr. Yu San CHEUNG

Department of Chemistry

The implementation of the "3+3+4" academic structure is widening the science background knowledge of students when they start their university life. Such heterogeneity poses a problem for teaching chemistry and conducting laboratory sessions. To cope with such learning diversity, micro-modules on various themes are being developed to facilitate the teaching and learning of fundamental chemistry topics at the junior undergraduate level.

In this project, a critical mass of learning materials are prepared for students on three main themes:

1. Essential laboratory skills: Acquiring good laboratory skills is a fundamental part of learning chemistry. A comprehensive collection of video clips are prepared to demonstrate the wide spectrum of laboratory skills that are essential for chemistry undergraduate students.

2. Micro-modules on fundamental chemistry topics: To bridge the gap between secondary school and university curricula, a series of video-based micro-modules on fundamental chemistry topics as self-learning teaching aids. We hope that these will help students catch up with these fundamental topics, and act as useful resources to support the implementation of flipped classrooms in junior undergraduate courses.

3. Assessment items and recommended study guides: The videos and micro-modules are accompanied with collections of self-assessment items (e.g., MCQs) and study guides. These help the students with their self-learning, as well as with adopting the learning materials required for flipped classrooms.

By the end of 2017, it is expected that all lecture video clips will be ready and implemented into the course related to Chemistry in the 2nd term of 2017-18.

P12. Micro-modules in Introductory Physics Courses

Dr. Shiu Sing TONG, Prof. Ming Chung CHU and Dr. Po Kin LEUNG

Department of Physics

Growing up with the access of internet and mobile phone, the current university students are more used to learning from short videos. While it is valuable to have face-to-face time in a lecture, the availability of e-learning materials is getting more and more important. To cope with the trend, we have produced two series of micro-modules to support the teaching of two introductory Physics courses. The first series is lecture recording (~960 minutes), divided into micro-modules. The second series is supplementary and more stand-alone materials on a selection of topics (~1000 minutes) that are not covered in the courses.

From our experience, we find that the modules are useful for pre-lecture preparation, post-lecture revision, and self-learning of advanced topics. The large range of topics, and also their depth and breath, make them useful for both the stronger and weaker students. One common worry about providing previous lecture recording is that students will skip the lecture. That did not happen in our courses. We will share more about our experience on preparing and using the micro-modules in this poster.

P13. Promoting Physics by Using e-learning Materials

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

Department of Physics

One of the difficulties in promoting science to secondary students and general public, is that more and more entertainments are drawing their attention. While it is extremely hard and costly to match the production value of other entertainments produced by commercial companies, assuming that it is even possible, a reduction of “friction” of accessing popular science contents would go a long way to keep the public interested in science.

With such a goal in mind, we have chosen some research topics in Physics and produced short videos about them. We are also producing a website about solar physics, and an e-book about relativity. The creation of these e-learning materials proves to be more time-consuming than we envisioned, but we are able to learn from experience by trying out all these ideas. We will share more about the production and usage of these materials in our poster.

P14. E-learning Approaches of Earth's Systems

Dr. Pui Yuk TAM and Dr. Wenzhu HOU

Earth System Science Programme

Earth System Science Programme (ESSC) provides an interdisciplinary platform to explore our Earth's systems and understand past and current natural phenomena like natural disasters and climate change issues. However, traditional classroom teaching may hinder students' initiative to learn these systems, which could be complex in reality. In order to arouse students' interest and increase learning effectiveness, our programme has developed three different e-learning approaches as supplement to classroom learning: (1) Mini-games of "Geological Time Scale" and "Volcanoes" create an interactive learning and discussion platform for students to recognize geological history and understand the formation processes of various types of volcanoes. (2) "Virtual field trips" videos illustrate both local and overseas geological features and the key concepts to students. Together with the tailor-made "Minerals and Rocks Gallery" for ESSC courses, students are guided to self-learn and critically discuss on current geological debates in the world. (3) Demonstration videos of "Weather In A Tank" visualize real-world atmospheric and oceanic conditions, and their interaction in an experiment. Some of these e-learning approaches are being applied in ESSC courses with positive feedbacks from the students. It is believed that such learning formats would be the future trend and replenish the deficiency in traditional learning in both school and the public.

P15. 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.

P16. Application of Virtual Reality (VR) Technology in the Teaching and Learning of Mitochondrial Functions

Dr. H.K. NGAI

Biochemistry Programme, School of Life Sciences

The mitochondrion is an organelle which plays an important metabolic role in the cellular and organismal functions. Any defect in the functions of mitochondria may lead to series medical consequences such obesity, diabetes and cancer. Understanding the biochemical properties and structure of mitochondria is also critical to learn about its metabolic functions and various diseases related to energy metabolism. However, it is often difficult for students to conceptualize the relationship between the mitochondrial functions and its microscopic structural features. With the advancement of information technology and readily available electronic mobile device, a portable immersive learning tool becomes an effective way to help students overcome this learning barrier. Virtual reality (VR) is one of the computer technologies that can provide an immersive learning environment by generating realistic images, sounds and other sensations. In this project, it aims to develop a set of VR animations which will bring students to a wonderful exploratory journey towards the innermost compartments of a virtual animal cell. Users will be guided to learn about the sophisticated design of the mitochondrial electron transport chain and the mechanism of energy metabolism as if they were physically present in the virtual mitochondrial matrix.

P17. Developing Video Learning Modules for Cell & Developmental Biology

Jenny LAI and Prof. Liwen JIANG

School of Life Sciences

Our project aims at developing online teaching videos on the basic knowledge and the advance developments in Cell and Developmental Biology. Undergraduate Students coordinated with the Postdoc Fellows and Postgraduates in the research laboratory to produce teaching videos featuring various biological concepts, experimental techniques and advanced research findings. The videos are complemented with online quizzes to test for students' understanding. Students can watch the videos out-of-class as a way of self-learning so that the valuable lecture time could be used more intensively for interactive teaching-and-learning. In this project, multiple teaching videos have been generated to introduce various topics in Cell and Developmental Biology such as Human Gametes, Mitosis and Meiosis, Plant Guard Cell. Some of these videos have been used in teaching undergraduate courses (e.g. CMBI4001) with good feedbacks from the students.

P18. Establishment of Flipped Classroom Activities for Molecular Biology Laboratory Class

Prof. Pang-Chui SHAW, Prof. Siu-Kai KONG, Yiu-Hong LEUNG, Eric, Lai-Ping KONG, Ada and Queenie Pui-Yin LAU

School of Life Sciences

To enhance the teaching and learning in Biochemistry through innovative use of e-learning material, flipped classroom activities were designed for Molecular Biology Lab with objectives: (1)
to facilitate self-learning so that face-to-face class time will be used to its utmost in student-teacher and student-student interaction. (2) The additional contents on laboratory techniques, pre-lab talks, and quizzes will facilitate instructors and demonstrators in teaching.

Related videos of basic laboratory technique were selected from our e-learning platform (http://www.bch.cuhk.edu.hk/learnbiochem/) and pre-lab talks on the principles of the experiments for flipped classroom activities (e.g. students doing pre-class work and watching pre-lab video at home). Pre-class worksheets were designed as instruction to inform students what to do in the flipped classroom. Exercises were prepared for students to revise before each lab class.

Flipped classroom activities were conducted in BCHE3650 Molecular Biology and Recombinant DNA Laboratory and BCHE4610 Molecular Biology Laboratory courses respectively in the second term of 2016/17. In March 2017, a survey was conducted for these two courses. The survey result indicated that most students agreed that flipped classroom approach in teaching and learning can increase learning and teaching efficiency for the laboratory class in several ways, including (1) time saving, so that they can have more time for doing the experiments, (2) they can study anytime at home and they can watch the video repeatedly for better understanding. Suggestions and comments from the survey will be considered for future improvement.

P19. Investigation of Non-seed Plants: A KEEP Course Promoting Self-learning

Dr. Cheung-Ming CHOW, Siu-Kwan WONG and Tin-Hang WONG

School of Life Sciences

"BOLS1253 Investigation of non-seed plants" is a KEEP-course which guides students to learn about two types of seedless plants, bryophytes and ferns, focusing on the structure-function relationship by surfing through two mobile phone compatible e-learning resources: Virtual Lab of Bryophytes and Virtual Lab of Ferns.

Our KEEP course contains 17 subtopics with each consisting of a "Learning Guidelines" and "Review question". It walks through the two virtual labs with the learners in a step-wise manner and provides links to other resources to encourage further exploration on the topics. It not only promotes self-learning but also encourages students to become active and deep learners.

P20. Basic Statistics in Higher Education

Prof. Siu Cheung KONG

The Centre for Learning, Teaching and Technology, The Education University of Hong Kong

"Basic Statistics in Higher Education" is a blended learning course designed for undergraduate students from all backgrounds with the aim of providing necessary fundamental knowledge for research-related hypothesis testing. The course consists of minimum 12 hours of self-learning on Moodle platform and four face-to-face tutorials each with a duration of one hour. Students will learn conceptual knowledge on topics of the Sampling Distribution, Central Limit Theorem, Confidence Interval, and Hypothesis Testing as well as practical use of the SPSS in-class by working along with online videos, interactive simulations, assessment items and a concept map following a suggested learning schedule. So far, there have been over 430 students from CUHK and EdUHK enrolled in this course, and from whom we have collected feedback to improve our teaching and learning paradigm.

P21. Active Learning through an Immersive Virtual Reality Environment

Dr. Frankie WONG[1], Prof. King Ming CHAN[2], Prof. Vivian LEE[3], [4]Prof. Morris JONG, [5]Dr. Paula HODGSON, Prof. Lawal MARAFA[1], Prof. Johnson CHAN[1], Prof. Alfred CHENG[6], Prof. Vivian LUI[6], Dr. Yuen Keng NG[6], Dr. Patrick NGAI[2], Prof. Tommy CHAN[7], Agnes FANG[8], Leo CHAN[1], Cathy WONG[1], Betty Hui[5] and Cindi Tang[5]

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Immersive reality environments (IVEs) can provide opportunities for learners to have an experience that perceptually surrounds them and enables them to have a sense of presence or actually being within it. Learners can interact with the IVE using a perceptual channel, e.g., by wearing a head-mounted display (HMD) with digital displays that project VEs. This may allow learners to visualize from two to three dimensions of an environment or an object, experience simulated situations to explore virtual locations as preparation for or replacement for actual visits or field exploration, interact with simulated clients or patients, simulate experiments and processes, and take actions while interacting with the virtual environment or object. In this project, this type of learning experience is applied in disciplines including life sciences, medical sciences, geography resources and management and education. It provides an authentic learning experience that may encourage learners to make inquiries and provoke reconceptualization of knowledge through experiencing and experimenting in the virtual setting. Most importantly, this project can bring enriched learning experiences across disciplines because research findings support positive learning outcomes: learners can find it easier to understand abstract concepts in three dimensions, bridge space over time, and examine trends and changes. Three types of VR are created in this project including (i) virtual reality with mouse interaction, (ii) AR/VR field trip and (iii) Virtual reality with physical interaction. The success of quality VR production demonstrated in this project together with students' recommendations can encourage more development on VR for learning enhancement.

P22. An Ecotourism Scenario Game for Tripartite (Teaching, Learning and Research) Enhancement in Tourism Study

Dr. Johnson Chung-Shing CHAN[1], Luca Yat Hang CHAN[1] and Agnes Tsz Heung FONG[2]

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[2]Centre for eLearning Innovation and Technology

With the rapid development of information and communication technology and e-learning, the conventional lecturing and knowledge transfer also have to incorporate innovative ways of teaching and technological advancements. Game-based learning is not new and has widely applied to various academic disciplines. Tourism studies often integrate field visit and classroom lecturing but a virtual and scenario-based experience in some real-life cases benefit both instructors and learners to stimulate discussions about circumstances of tourism planning and management.

The Ecotourism Scenario Game is an educational platform which simulates an indigenous community in the Amazon rainforest in Peru. Combining conceptual/theoretical knowledge, real world information and hypothetical storyline, this game allows students to make decisions in different scenarios in the development process. Instructors may deliver knowledge of ecotourism such as tourism impact assessment, destination planning and visitor management at certain stages of the game. Some common dilemmas between different parties are designed along the storyline and the students are encouraged to critically think and justify their decisions in attempt to balancing the multi-stakeholders' interests and achieving sustainable tourism development.

This game significantly integrates conventional lecturing, class interactions and e-learning application to tourism classes. The platform also allows students to experience the scenarios outside classroom, either individually or group-based, which would enhance the learning effectiveness.

Keywords: Ecotourism; game-based learning; scenario game; tourism

P23. Language Map of CUHK 2.0

Dr. Pit Shun LAI, Yin Yee LAI and Pui Yee TSANG

Department of Chinese Language and Literature

"CUHK Literary Walk"(中大文學散步) is an important teaching and learning activity proposed in the University Chinese Core "CHLT 1100 University Chinese I" , which students are guided by the teacher to appreciate the beauty of the campus by visit the scenic and historical spots on its campus described in the literary works by famous writers. " Language Map of CUHK 2.0"(中大語文地圖 2.0) is an mobile application which designs as an assisting tool for this learning activity which was supported by the Courseware Development Grant Scheme(2016-17).

The home page of the "Language Map of CUHK 2.0" is a CUHK cartoon map indicated with major landmarks. Users click on the landmarks will show the following three buttons:
1.Introduction(地景掌故): A descriptive record of the CUHK landmarks.
2.Writer's works(山城筆跡): Compile the works of famous authors and students.
3.Write your words(舞文弄墨): Users may submit their work through Blackboard, Facebook and google form which will be periodically updated on the app after the works being screened by our team.

According to the plan's original conception, works from famous writers are only the initial materials content of the map. In the long run, we hope to see the works of CUHK students constitute most of the content of the map. To this end, we have already been soliciting contributions from students since September by Facebook and invited teachers to recommend outstanding pieces of work from their class. We believe that students' creative work would make the map more attractive.

As CHLT 1100 University Chinese I focusing on develop the ability of observation and expressiveness of the student as the learning outcomes. We believe that the map can cultivate students' observation skills and improve their Chinese writing skills through appreciating excellent works from both the famous writers and other students. In addition to this point, we also believe that our app can encourage students to write for their beautiful campus by posting their works on this co-construction eLearning tool.

Apart from the description of function map, we would like to interpret the practical values of the map in facilitating "CUHK Literary Walk" and explain how to integrate this app into the assessment of CHLT 1100 in the poster. We will take reference to the comments and opinions from the guests and other participants for further amendment of the app.

P24. English and eLearning: Insights from Incoming International Exchange Students at CUHK

Prof. Jane JACKSON and Tongle SUN

Department of English

Throughout Asia, institutions of higher education are being asked to internationalize and substantially increase the number of non-local students on campus. To this end, many institutions are offering more courses in English, the de facto language of internationalization. To better understand the transition issues facing incoming international exchange students who are second-language speakers of English, a mixed-method study is being conducted at a Hong Kong university that now hosts 1,000+ semester and year-long international exchange students. As the University promotes interactive learning and eLearning (e.g., online Forums, flipped classrooms, group projects), the study is investigating how the exchange students are coping with the demands that are placed on them in English-medium courses. This presentation reports on the findings associated with 74 incoming semester-long international exchange students, all of whom are second-language speakers from other Asian countries or Europe. Through surveys and in-depth interviews, the participants divulged their academic sojourn experiences, pointing to the need for interventions to support their language/eLearning and academic integration. This presentation underscores the merits of undertaking a systematic needs analysis to provide direction for meaningful academic (e.g., English for Academic Purposes courses, workshops, orientations) and non-academic support (e.g., social activities that integrate local and international students). Research of this nature can benefit both local and international students, and faculty. (This project is supported by a Teaching Development and Language Enhancement Grant (TDLEG) from CUHK.)

P25. Mentoring International Exchange Students Online: An Intercultural Intervention

Prof. Jane JACKSON and Cherry CHAN

Department of English

To enhance the intercultural learning of international exchange students, micro modules (eLearning materials) were developed for Intercultural communication and engagement abroad, a fully online, credit-bearing general education course. Each week, while the course participants were in their host country, they viewed the micro modules on Blackboard and digested related readings and YouTube links. In full-class Forum discussions, small fieldwork groups, and a reflective essay, the participants shared their intercultural experiences and evolving understanding of intercultural concepts and issues. Throughout the semester, guided critical reflection prompted them to think more deeply about how their intercultural attitudes and actions may have affected their interactions with people who have a different linguistic/cultural background from them. Through online mentoring, the participants were encouraged to make connections to the intercultural concepts and theories that were explained in the micro modules and assigned readings. After providing an overview of the course (e.g., aims, activities, approach to learning and teaching, micro-modular content, modes of assessment, grading scheme), key findings related to the most recent offering (learning outcomes, student perceptions of micro modules/intercultural mentoring) will be presented, along with implications for future offerings. (This project has been supported by a Micro-Module Development grant (eLearning pedagogy research) and a Teaching Development grant from CUHK.)

P26. A Flipped Classroom of System Dynamics Modelling for Public Health

Prof. Ka Chun CHONG and Katherine JIA

School of Public Health and Primary Care

PUBH6001/BIOS5001 and PUBH6003/HSYS5001 are two fundamental courses for research postgraduate students in Public Health programme. The programme aims to introduce the basic knowledge of using statistical methods on their research and to introduce the principles of health policy and healthcare management. Nevertheless, the majority time of the courses was spent on teaching the basic theory supplemented with several tutorials, and there is a lack of demonstrations and discussions on applying statistical tools in health policy evaluations. This lead to a lower proportion of health policy modelling research when comparing with other traditional epidemiological research designs. Besides, some students indicated they were hard to apply the acquired knowledge to their practical needs.

With the previous experience and success of the flipped classroom development, we are developing a micro-module model to encourage students acquire skills of systems dynamics methodology – a common statistical skill in health policy research. The project team includes course coordinators from both courses in order to monitor the adequacy of courseware development. It is expected that students can learn the materials outside classroom and leave more time for in-class discussions, thus to bridge the gap between two disciplines.

Three modules have already been developed (http://micromodule17.comuf.com/Index%20for%20DM.html) and evaluated by five students. The students indicated the modules were practical, well-organized, and illustrated clearly, yet improvements could be made on content delivery (e.g. outline and subtitles) and visual impacts (e.g. focus on small or vague diagrams was needed).

P27. 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.

P28. 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.

P29. 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.

P30. Audio-visual Materials for Intermediate Cantonese Second language

Kwun Hung CHANG and Minyu SHEN

Yale-China Chinese Language Centre

This project is aiming to seek funding to develop three micro-modules with audio-visual input that supports flipped classroom learning and teaching. With the use of Powtoon and Camtasia, we produce short videos to introduce Cantonese sentence structure and provide additional oral skills practice to our students. Videos are uploaded on the Vimeo for easy access.

Apart from producing learning videos, we have developed Quizlet exercises for students in order to promote self-learning with the use of mobile phones. Students are encouraged to search our course code from the Quizlet so that they can access our exercises and do their preparation freely before and after the lectures.

Finally, in order to evaluate the effectiveness of our new teaching materials, we require our students to complete 'post video assignments' after watching our videos. The output of our work offers extra learning experience to international/ exchange students who are choosing Cantonese as their elective courses. Instead of imitating native speakers passively, students are required to take their initiative to ask questions. Our goal is to increase their ability to give immediate response to native speakers in Cantonese through listening and oral skills training.

P31. Rethinking Presentation as a Teaching Tool

Hong JIANG

Department of Translation

Interpreting, as the oral form of translation, imposes high demands on oral language proficiency of all active working languages of the interpreter. It also requires fast processing of incoming speech information in preparation for reformulation into the target language. In the consecutive interpreting mode, interpreters are also required to have the appropriate stage presence in the tripartite communications process with the interpreter as the mediator. In training, presentation has proven to be a multi-functional device to train a diverse set of skills of the interpreter. This poster demonstrates now presentations can be organised to produce the most results from one single training activity.

P32. Assessing the HKDSE in Music

Dr. Brian Thompson

Department of Music

In 2012 the Hong Kong Education Bureau launched the New Academic Structure (NAS). Under what was known as 3-3-4, students complete three years of compulsory junior secondary school and three years of senior secondary before entering what is usually a four-year bachelor's degree programme. Replacing the colonial-era system of O-Levels and A-Levels, the HKDSE aimed to prepare students for a range of possible future directions, including both associate degrees and undergraduate studies. With five years of the NAS behind us, it is time to assess how well the HKDSE is preparing students for university studies.

This poster aims to provide some insights into how well the HKDSE in Music is preparing students for university studies. It is based on a careful comparison of the secondary and university curriculum and a survey of 120 CUHK music students, conducted in May 2017. Preliminary evidence suggests that in a number of ways the secondary curriculum fails to provide students with adequate preparation for university studies. In addition to illustrating the discrepancies between the objectives and outcomes of the HKDSE in Music and university entrance requirements, the poster aims to offer recommendations in how we might bridge the gap between secondary and tertiary education in music.

P33. 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.

P34. Using Flipped Classroom to Enhance Interactive Teaching and Learning in Advanced Topics in Biological Electron Microscopy and Live Cell Imaging

Karen KAM, Prof. Byung-Ho KANG and Prof. Liwen JIANG

School of Life Sciences

LSCI5012 Advanced Topics in Biological Electron Microscopy and Live Cell Imaging is a newly established three-unit advance course (first taught in September 2016) designed for postgraduate students in the School of Life Sciences.

The pedagogical goals of this course are 1) to discuss the theory of Electron Microscopy and Live Cell Imaging as well as how the advanced Microscopy techniques can be put into use for the latest research discoveries; and 2) to provide rich hands-on practice of advanced 3D Tomography TEM (transmission electron microscopy) and advanced live cell imaging of biological science research to the students.

To achieve these goals, we aim to revolve the traditional lecturing to a more self-driven flipped classroom with more reliance on virtual learning platform. We will produce a flipped classroom containing two sets of teaching videos which will serve as a useful learning tool for students taking the course. Both sets of videos will be supplemented with corresponding question sets to be answered by students before the class or lab and for discussion during the class or hands-on sessions. In the hands-on sessions in the laboratory, students will practice TEM sample preparation, tomography reconstruction, fluorescent microscopy imaging of live cells, as well as image analysis software.

So far, we have developed and uploaded the first set of videos to our online learning platform for 2017-2018 teaching term. This will enhance students out-of-class learning so that the lecture period can be more focused on discussion among students and presentations.

P35. Development of Visual and Narrative Inquiry: An Integrated Learning Platform for Cross-disciplinary University General Education Courses

Dr. CM CHOW[1] (UGEB2350), Dr. HK NGAI[1]* (UGEB2361), Wai Kwan CHENG[1]*
Dr. Lawrence CHIU (UGEB 2262)[2], Dr. L SIOW (UGEB2360)[1], Dr FH LO (UGEB2363)[1],
Dr. PY CHUI (UGEB3630)[1], PS YIP (UGEB2362)[1] and KK CHU (UGEB2364)[1]*
**Corresponding presenters*

[1]School of Life Sciences [2]Convener, General Education Committee in School of Life Sciences

Eight UGEB courses offered by School of Life Sciences involve diverse fields of scientific theories, appreciation and the ethical concerns of new biotechnology like genetically modified food and stem cells research. To help our students to master the abstract scientific concepts, make connections among the seemingly isolated topics, apply knowledge to daily life scenarios and extend their learning beyond the course, we have been developing an integrated learning platform, Visual and Narrative Inquiry based on the principle of a modified social science research method called “photo-elicitation”.

Our visual narrative platform allows students to construct and recall their scientific theories based on their prior knowledge and learning experience during the class by selecting a photo of interest from a database, writing a descriptive narrative and commenting others’ narrative. Through the exercise, students will be motivated to integrate the knowledge of what they learnt from the course with their personal experience as students can make use of their imagination, creativity, logical thinking and learning experience to analyze and describe the photo in form of the narrative to show their unique personal interpretations. It can enhance the synergistic effect of students’ learning in multi-disciplines of life sciences by facilitating their role in active learning and making connections of each ground-breaking discovery from different perspectives. To cater learners’ diversity background, moreover, this platform aims to boost students’ engagement and collaborative learning by encouraging participative and peer-to-peer learning.

In this presentation, we will explain the design and the key features of our platform, and also the current progress.

P36. 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.

P37. Flipped Micro-Module for Professional Sports Skills Courses

LEE, C. W. D.[1], HWANG, S. S. I.[2] , JIN, Y.[3] , YUNG, L. K. A.[3] , LEE, M. F. R.[4] , CHEN, M. H. D.[4] , MA C. W. D.[1] , LIU K. S.[1] & TANG, T. M.[5]

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[5]Physical Education Unit, Faculty of Education

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.

P38. Micro-modules for Pharmaceutical Dispensing: A Bi-lingual Micro-Dose Delivery of Concepts Involved in Dispensing Medications

Dr. Celeste EWIG[1], Mr. Alex YUNG[2], Ms. Yan JIN[2], Mr. Matthew HUI[1], Mr. Taylor TANG[3], Dr. Isabel HWANG[4]

[1]School of Pharmacy, [2]Office of Medical Education, [3]Information and Service Technology Centre, [4]School of Biomedical Sciences

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.

P39. Collaborative Sharing of eLearning Materials: Internationalization with Localization

Dr. Celeste EWIG[1], Manson TONG[1], Dr. Isabel HWANG[2], Keenan BEAUMONT[3], Keith SEWELL [3]
[1]School of Pharmacy, [2]School of Biomedical Sciences,
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Background:
Getting students ready for their future roles as healthcare professionals requires preparing them intellectually, mentally and emotionally.

Challenges:
Students often graduate with very minimal practical training throughout their university education. Furthermore, summer practice sites are often are limited in the number of spaces available. This lack of practice may lead to anticipatory stress most notable during the students' final year of studies.

Strategies: Virtual learning platforms
Virtual learning platforms specific to pharmacy courses (MyDispense, Pharmatopia and Pharmville) have been developed by Monash University (Australia). These platforms provide a simulated and interactive eLearning environment for students. The activities within the virtual platforms are created through the collaborative efforts of member institutions which include schools of pharmacy from various countries all over the world.

Working with Monash University, we created a CUHK (Hong Kong) version of MyDispense. This version incorporates the same learning activities as other partnering institutions yet takes into account local differences in the practice (i.e. legal classification of medications, largely Chinese population, etc). Through this program, pharmacy students are exposed to a simulated learning experience early on in their studies. They also participate in international learning activities, yet have these experiences relevant to local practice.

Preliminary Results:
MyDispense CUHK has been developed already and is currently in its finishing touches. It will be available to pharmacy students in early December, 2018. Activities and online exercises will be assigned to students in early 2018.

Conclusion:
The use of virtual eLearning platforms can provide an additional environment for students to practice the integration of knowledge onto patient care.

P40. The Impact of Interprofessional Education in the Community

Prof. Vivian WY LEE[1], Prof. Janita PC CHAU[2], Dr. Ann LAU[3], Prof. Paul LAI[4], Prof. Samuel WONG[5],
Prof. Wendy WONG[6], Dr. Michael CHUNG[6], Prof. Wallace CHAN[7], Ka Choi CHAN[7], Enoch, NG[1], Felix FONG[1], Amy LAM[1], Levia NGAI[1], Laadan LO[1], Maggie YEUNG[1], Sara CHIU[1], Tom LEUNG[1] and Nicola LAW[2]

[1]School of Pharmacy, [2]The Nethersole School of Nursing, [3]School of Biomedical Sciences, [4]Office of Medical Education, [5]Jockey Club School of Public Health, [6]School of Chinese Medicine,
[7]Department of Social Work

Background: Inter-professional collaboration and service learning are integral parts of the CU CHAMPION community outreach programme every year. The programme aims to offer students of different disciplines from Faculty of Medicine the opportunities to work as an inter professional outreach team and engage students in raising health education and promoting medication safety in the aging community.

Methodology: Before attending outreach events, enrolled student volunteers had to attend workshops to learn the outreach logistic, and participate in case discussion. They were also enrolled in an e-learning platform called CATALYST 2017. The platform was designed to develop a cross-disciplinary platform in health sciences education.

Results: 290 CUHK students, 117 secondary school students, and 73 alumni volunteers participated in the 2017 programme year. The team successfully conducted 60 outreach sessions, and reached out to 4235 subjects from October 2016 to September 2017.

Programme evaluation surveys among CUHK student volunteers showed that there was a 11.6% increase in the knowledge about medication safety, 17.1% increase in understanding dementia, 29% increase in atrial fibrillation knowledge, and a 19% increase in geriatric care knowledge. The secondary school students also expressed their interest towards diverse medical-related disciplines at CUHK.

Conclusion: CU CHAMPION 2017 successfully demonstrated inter-professional service learning to improve students' attitudes toward geriatric medicines, elderly care, and enhancing their awareness of health needs in the community.

P41. The Use of Virtual Reality in Clinical Cardiology Pharmacy Education

Prof. Vivian Lee[1], Enoch NG[1], Felix FONG[1], Amy LAM[1], Livia NGAI[1], Laadan LO[1], Agnes FONG[2], Leo CHAN[2], Cathy WONG[2], Dr. Paula HODGSON[3], Betty HUI[3] and Cindi TANG[3]

[1]School of Pharmacy [2]Centre for eLearning Innovation and Technology
[3]Centre for Learning Enhancement And Research

Pharmacy students in Hong Kong face the common challenge of having limited opportunities to experience professional clinical practice, even though they are required to interpret clinical cases and attend pharmacy ward rounds during Years 3 and 4 of their study. However, there is a chronic lack of systematic teaching materials for pharmacy students on the preparation of clinical cases, the interpretation of clinical notes and clinical abbreviations, and the assessment of clinical cases. The current project is a pioneering project in Hong Kong for the development of clinical cardiology pharmacy pedagogy using immersive virtual reality (IVR) techniques to enable students with no clinical experience to work through interactive cases. We have developed two IVR teaching modules using real patient cases from Prince of Wales Hospital. In effect, we have brought the clinical ward setting into the classroom. Students experienced first-hand clinical exposure in class with guided, step-by-step teaching material to translate clinical knowledge into practice. In general, IVR in pharmacy education is still new in Hong Kong, although students did find the use of IVR in this context interesting. However, proper guidance and instruction are required prior to the use of IVR. We present the perspectives of both students and teacher in this project, and we also compare the use of paper-format and IVR case discussions.

P42. Translational Stimulation by Micro-modules for Case Studies in Cardiology

Prof. Vivian Lee, Enoch NG, Felix FONG, Amy LAM, Livia NGAI and Laadan LO

School of Pharmacy

Clinical case illustration is important for pharmacy students to understand the application of pharmacology and therapeutics knowledge that they have learned in class. However, actual ward round in the acute setting may not be feasible with a student group size of 60. Therefore, the use of micro-modules for clinical case presentation will be ideal for better translational applications in real world clinical environment. We have introduced micro-module into our PHAR 3413 course during the Fall semester 2016 already. We have developed a total of 51 micro-modules and case studies in (1) hypertension, (2) heart failure, (3) dyslipidaemia, (4) thromboembolic diseases, and (5) acute coronary syndrome. Each disease topic has 8 micro-modules on related topic materials plus 2-3 micro-module e-cases on Blackboard. Additionally, another 1-3 clinical cases were further discussed in class for more student-teacher interactions to facilitate teaching and learning. We have accumulated hit rates of over 18,000 for PHAR 3413 cardiology micro-modules with an average of 11.37 hours spent per student during the course on e-learning. In addition, there is a significant change on the students' attitude and understanding towards cardiology pharmacotherapy.

P43. Digest^{VR}: Turning Imagination into Reality

Dr. Ann LAU[1], Dr. Wai Kai WONG[1], Dr. Yuen Ken NG[1], Dr. Sam POON[1], Hugo CHEUNG[2], Tony WONG[2] and Janet CHAN[2]
[1]School of Biomedical Sciences, Faculty of Medicine, CUHK, [2]Contractors

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.

P44. Micromodule + Flipped Classroom: An Effective Approach for Students to Self-learn the Anatomy of Lymphatic System

Dr Joyce SY LAM[1], Dr. Maria SM WAI[1], Flora MK LEUNG[2], Dawnie LAU[3] and Agnes TH FONG[2]

[1]School of Biomedical Sciences [2]Centre for eLearning Innovation and Technology
[3]Faculty of Medicine

The lymphatic system is an important system in the human body for body defense and the generation and removal of blood cells, among other functions. It plays an important role in the well-being of the body and is thus essential for medical students in their foundation years to have general knowledge of it. Despite of its importance, this system has not been emphasized in the anatomy teaching in medical year one curriculum. To fill this learning gap, micromodules containing key concepts of the anatomy of the lymphatic system were designed and introduced to medical year one students.

Each micromodule makes use of tailor-made 2D drawings and photographic images taken from human specimens. Several interactive motion graphics have been included to illustrate difficult concepts. The micromodule package, developed using the Articulate Storyline software, was then delivered to students via Blackboard for their ease of access. After viewing, the content in the micromodules was discussed in a flipped classroom environment with the use of response device UReply.

Preliminary data shows that students were able to self-learn the main concepts included in the micromodules by watching the motion graphics, listening to narrated text, and viewing annotated images and photos. They showed that they were able to grasp the fundamentals of the system by answering correctly to revision questions in the flipped classroom session. The combined strategy of using micromodule and flipped classroom was proved to be an effective approach for students to self-learn the anatomy of lymphatic system.

P45. 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 TANG[1], Prof. Yiu Wa KWAN[1], Prof. Hui ZHAO[1], Prof. Ellis FOK[1], Dr. Dewi Kenneth ROWLANDS[2], Dr. Olivia NGAN[3], Ray LEE[4] and Taylor TANG[4]

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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.

P46. An Innovative Pedagogical e-Learning Micro-module Courseware in Preparation of Objective Structured Clinical Examination (OSCE): The Flipped Classroom in Clinical Examination

Dr. Florence Mei Kuen TANG (Project Leader)[1], Prof. Henry Lik Yuen CHAN[2], Prof. Tony Wing-Chung MAK[3], Prof. Siew Chien NG[2], Jenny FAN[4], Dr. Olivia NGAN[5], Ray LEE[6], Taylor TANG[6], Kristy FUNG[7] and Sarah WONG[7]

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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 bedsides 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 ($_{\text{Flipped}}$ 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 $_{\text{Flipped}}$ 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.

P47. BIOMEDICAL SCIENCES OF LIVER CANCER: an e-Learning example bridging basic medical sciences with clinical knowledge

Dr. Yuen-Keng Ng[1], Dr. Maria Sen Mun WAI[1], Dr. Rebecca Kit Ying LEE[1], Dr. Ann Sin Nga LAU[1] and Prof. Paul Bo San LAI[2]

[1]School of Biomedical Sciences [2]Office of Medical Education, Faculty of Medicine

Currently, many of our medical students (MBChB) conceptually divided their medical education into 2 distinct phases: the first 3 years for preclinical basic sciences while the last 3 are for clinical studies. This unintentional division in their mindsets on medical learning cause our students fail to integrate various medical disciplines and apply basic science knowledge on their clinical studies on patients. To better nurture the 21st century medical students for applying biomedical scientific principles, methods and knowledge in daily medical practices, medical schools worldwide are encouraged to promote both horizontal and vertical integration between and across various medical disciplines. Horizontal Integration means the linkage between different subject areas in a meaningful manner while vertical integration bringing basic and clinical science together explicitly in all years of the medical training. As a means to demonstrate the knowledge integration of basic and clinical biomedical sciences to our students, we have developed an e-learning package to demonstrate how to connect different fields of biomedical sciences for understanding a patient's clinical condition and the related available clinical management options. Using primary liver cancer as the conceptual framework, our package introduces to our student how their knowledge gained in their first 3 years of medical education, namely molecular medicine, cell biology, pharmacology, physiology and anatomy, can be integrated together for a better understanding on a disease and its clinical relevance.

P48. Articulate Storyline as a Tool for Knowledge Integration (Nucleotide Metabolism)

Dr. Rebecca Kit Ying LEE, [1], Daisy CHEN[2] and Bernard Yat Nam NG[2]

[1]School of Biomedical Sciences, [2]Information Technology Services Centre

Students always encounter difficulties in studying biochemical pathways. They are especially **weak in understanding the relationships** between metabolic pathways and **integration** of multiple pathways together because these pathways are always taught one by one in class. The **Metabolism Metro** is a self-learning tool which aims to arouse students' interest in exploring human metabolic pathways. In **Phase 2** of this courseware, **fragmented concepts were integrated** and presented as a **metro map** (**concept map**). Key molecules involved in the pathways will be presented as "railway stations". Students can easily identify common "railway stations" present in different pathways and link those concepts that they have learnt in class together. This is also the first time that we use the "**ticket machine concept**" for students to revise individual metabolic pathway. Students can begin their journey by selecting different "railway lines" (metabolic routes). This interactive self-learning tool will be packaged as a courseware using the articulate storyline.

P49. Leveraging Clinical Experience of Medical Students in the Urology Rotation with a Hybrid Learning Model

Prof. Jeremy Yuen-Chun TEOH and Chi-Fai NG

Division of Urology, Department of Surgery

Introduction

In the Traditional Learning Model, medical students were first taught through group lectures, followed by a clinical attachment in which students meet patients in real life settings. We aimed to leverage the clinical experience of medical students in the urology rotation with a Hybrid Learning Model (HLM).

Methods

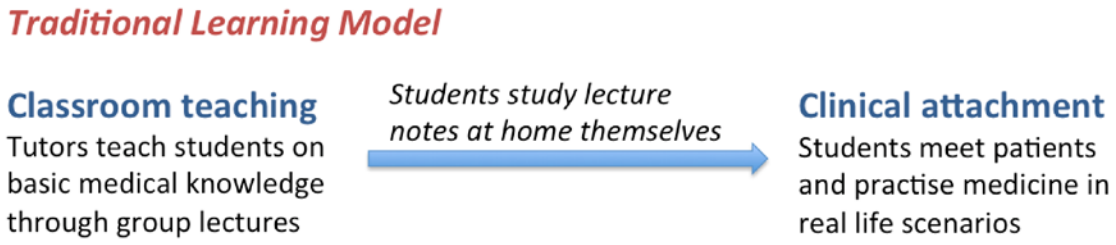
In the HLM, we first utilized a flipped classroom approach and asked students to watch 8 e-learning modules. Apart from the usual clinical attachment, we also developed 9 'e-learning cases' based on real life scenarios as a form of blended learning. The combination of clinical attachment and e-learning cases aimed to complement each other to leverage the clinical experience of medical students. We implemented the HLM and conducted a survey from our medical students.

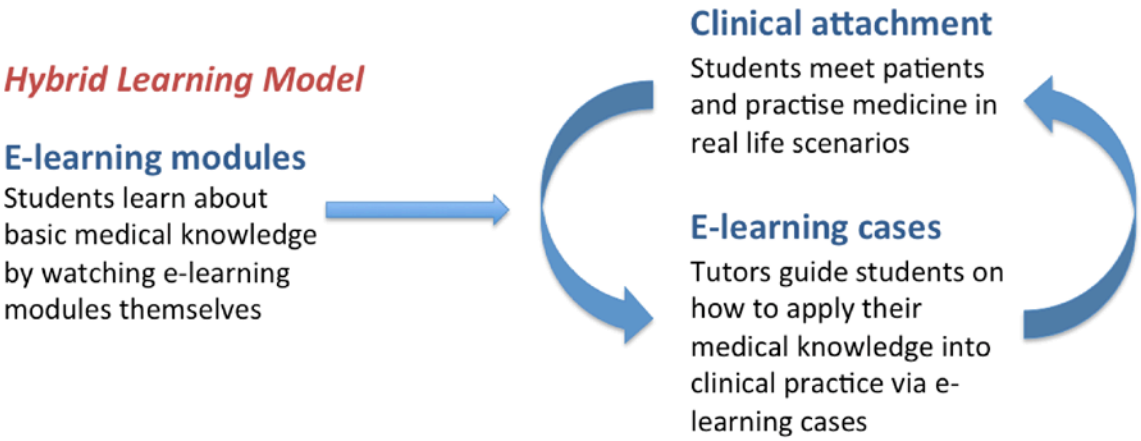
Results

A survey was conducted from 77 medical students. 89.3% of them had watched the e-learning modules before attending the clinical attachment and e-learning cases tutorial. 92.2% of them agreed or strongly agreed that the tutor was able to guide them through the case discussion. 92.2% of them agreed or strongly agreed that the HLM could help them apply their acquired knowledge into clinical practice. 87% of them agreed or strongly agreed that the HLM allowed a more in-depth understanding about the conditions being taught in this specialty. 75.3% of them agreed or strongly agreed that the HLM should be used in other medical specialties.

Conclusion

The HLM is practically feasible for medical students with promising feedback. This model could be considered in learning other medical specialties.




Hybrid Learning Model
E-learning modules
Students learn about basic medical knowledge by watching e-learning modules themselves
Clinical attachment
Students meet patients and practise medicine in real life scenarios
E-learning cases
Tutors guide students on how to apply their medical knowledge into clinical practice via e-learning cases

P50. Interactive Radiology Anatomy

Janet SM Chan[1,2], Prof. Ann D King[1], Dr. Jill M Abrigo[1], Prof. Winnie CW Chu[1]

[1] Department of Imaging and Interventional Radiology, Faculty of Medicine
[2] 42 Arte

Radiology is best taught in small groups or in one-on-one sessions because every detail of each scan is different and can affect the diagnosis, yet, the number of tutors available to teach students, especially in our teaching hospitals, is limited, making a significant imbalance between supply and demand. Medical knowledge also is expanding rapidly and overwhelming the medical school curriculum Therefore, up-to-date and accurate learning materials need to impart knowledge efficiently. They also need to be delivered in an effective and engaging manner.

We present an interactive radiology program designed to teach pre-clinical medical students the anatomy on a chest X -ray. It is a self-paced, non-linear, learning program where medical students learn to 1) identify normal anatomy on chest x-rays, 2) identify abnormal anatomy on chest x-rays, leading them to 3) deduce possible causes for the abnormalities and conclude with some very basic differential diagnoses. Relevant background information, as text, illustrations or animations, are provided to aid students in verifying their diagnoses on their own and stimulating an early interest in radiology, which is one of the core elements in medical diagnosis.

Interactive Radiology Anatomy is designed to reinforce or replace part of the radiology anatomy teaching curriculum. Its effectiveness will be assessed by a student survey at the end of each module.

P51. Micro-Modules for Nursing Students: Flipped Learning in Anatomy

Dr. Sally WS LO, Dr. Philip MW HUNG, Dr. Fiona WK TANG and Prof. Sek-Ying CHAIR

The Nethersole School of Nursing

This project aims to develop micro-modules for the major topics in the Anatomy course offered to Year 2 Nursing students. The objectives of the project are: (1) to enhance students' understanding of the human anatomical structures and arrangement using micro-modules; (2) to consolidate the knowledge learnt in micro-modules and apply them into nursing clinical practice; (3) to facilitate students' learning at their own pace and time; and (4) to support the implementation of flipped classroom in the course.

The two topics selected for developing the micro-modules were "The Musculoskeletal system" and "The Nervous system". With the support from MMCDG, four micro-modules were produced and published using the Articulate Storyline 360 software package.

Micro-modules produced were uploaded and logged to the LMS of CUHK (Blackboard) under the course. To complement with flipped classroom, students were asked to go through the micro-modules and complete the self-check questions before class. During class time, course teachers revisited the important concepts in the micro-modules and encouraged active learning through in-class activities.

With the innovative use of the micro-modules, it is our hope that the teaching and learning process could be enhanced. In the mean time, the evaluation of users' experience in using the micro-modules is pending.

P52. Applying 3D Elements in Acupuncture Class

Michael CHUNG

School of Chinese Medicine

The understanding of 3D relationship of the body surface is essential in the study of acupuncture for TCM students and many other courses in health care studies. Published 3D coursewares are available in the market but with costly subscription fee, and the production of own subject content could be technically demanding. With the increased popularity of 3D multimedia, low-cost production and sharing of 3D gadgets to students are now much more easier than ever. The author has tried applying the following 3D elements in the teaching of acupuncture practical class with the following low-cost solutions: 3D photo capture by smartphone, free-hand drawing with 3D-paint in Windows 10 and Sketchfab, an online 3D presentation platform which allow annotation of 3D model. The current solution allows an easy way for sharing of knowledge and interactive discussion among the students.

P53. Laboratory Safety e-Learning Platform

Dr. George Fai WONG, Dr. Yu San CHEUNG and Dr. Wing Fat CHAN

Department of Chemistry

Experiment classes are important for science learning where students apply the abstract concepts through experimentation. In Chemistry Department, laboratory classes account for around 40% of the curriculum. However, there is no single course on chemical safety. It does not mean that it is not important. On the contrary, there were some fatal accidents in laboratories such as burning, fire and inhalation of very toxic gases in the past. To this end, we are underway to develop an online e-Learning platform to teach laboratory safety.

Laboratory Safety e-Learning Platform (LabSafe Platform) is an interactive platform developed by Articulate Storyline 2. It includes narrated lecture slides, case studies, animations, videos, and quizzes. We are producing teaching materials on personal protective equipment, material safety datasheet, chemical incompatibility, fume hood and emergency protocols.

P54. 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.

P55. An Integrated Experiential Learning and Alumni Engagement Co-Curriculum

Dr Jie TIAN, Gentiana CHEUNG and Dr. Jacqueline WONG

[1]*School of* Hotel and Tourism Management
[2]*Department of Decision Sciences and Managerial Economics*

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).

P56. Blended Learning in Economics and Finance Courses at Business School

Dr. Andrew YUEN[1] and Dr. Anson AU YEUNG[2]

[1]Department of Decision Sciences & Managerial Economics [2]Department of Finance

The study aims at evaluating the teaching and learning effectiveness of micro-modules in macroeconomics and finance at undergraduate and postgraduate levels in CUHK Business School. Using micro-modules in the flipped classroom strategy has attracted lots of attention from educators and pedagogical specialists. It is believed that this 'flipped' approach can enhance students' learning experience and also improve their motivation and engagement in class.

Built upon the micro-modules developed since 2015, the study aims to investigate the impacts of flipped classroom in Business School, and at the same time identify the differences in impacts of flipped classroom for students with different background.

The study will be conducted in DSME1040 Economics for Business Studies II (a faculty package course for undergraduate business programs), FINA2010 Financial Management (a required course for the programs), DSME5012 Macroeconomics for Business Executives and FINA5010 (required courses in MBA programs).

P57. Why Can't I Get Into The Companies That I Wanted To Work For? Subject Knowledge Vs Job Hunting Skills

Dr. Almaz CHAK

Department of Management, Business School

Despite the various learning experiences (overseas exchanges, internship, services learning, in-class learning) that undergraduates have possessed in their university education nowadays, it is still not easy for them to get into the companies that they wanted to work for. This exploratory study tries to investigate the reasons behind for the difficulties and hurdles in getting through the job-hunting process. We have collected data from final-year students who are major in MIB concentration for the study. Findings have shown that improvements could be made in the curriculum design and yet, the preparation, knowledge and skills needed for job-hunting process could play a more important role to increase employability of our fresh graduates.

P58. Word-of-Mouth vs. Word-of-Mouse: Use of Digital Wall (Padlet Backpack) to Teach "Learning and Development for Service Business"

Dr. Miju CHOI

School of Hotel and Tourism Management, Faculty of Business Administration

Learning is a journey, not a destination, and ultimately, it is the student's obligation to take responsibility for this learning. It is the instructor's role to make learning opportunities available to the student and to facilitate these opportunities. As such, the course "Learning and Development for Service Business" utilized a number of different pedagogical methods to maximize the learning potential for the student. Class lectures, readings, in-class activities and online discussions, individual and group assignments were designed to provide a holistic learning experience.

In particular, the instructor used a digital wall (Padlet Backpack) to extend classroom conversations and learning by getting students to engage with class material online.
There's a good chance you've done the "write on a sticky note and put it on the wall" activity — or have seen it happen before. "Padlet Backpack" is a web app that lets users post notes on a digital wall. "Padlet Backpack" lets those sticky notes have images, links and videos AND be available with practically any Internet-ready device. "Padlet Backpack" is a web app that lets users post notes on a digital wall.

This post displays how to apply a digital wall to stimulate students' participation.

P59. Developing Teachers' Craft Knowledge through Online Modules

Prof. Lai-yiu Eunice TANG, Dr. To CHAN, Dr. Yip Cheung CHAN and Dr. Mau-yuen NG

Department of Curriculum and Instruction, Faculty of Education

This poster documents an online education hub created to host subject-specific and generic modules of teaching videos in Hong Kong classrooms. The teaching videos are accompanied with lesson plans, instructional materials, reflective questions and further readings to develop critical awareness of teaching in the local context, and to realize the craft knowledge development in "learning to teach". The online education hub is made available to all undergraduate and postgraduate students from the English Language, Chinese Language and Mathematics programmes at the Faculty of Education, The Chinese University of Hong Kong. One special feature of this online education hub is the trial adoption of full length teaching videos edited with time markers and short descriptions to present key concepts or stages of a lesson instead of editing the lesson into short clips. The presentation of a full length lesson helps display a macro view and a coherence flow of the actual teaching scenario in which student teachers can visualise how key concepts or important stages emerge in the process of the classroom activities. Future research can be conducted to evaluate the effectiveness of using micro-modules and full-length module with time markers to develop student teachers' craft knowledge.

P60. CUHK Learning Management System 2017 - Blackboard

Information Technology Services Centre

P61. CUHK Teaching and Learning Video System 2017 - Panopto

Information Technology Services Centre

P62. 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.

P63. CUHK in Communities: Bringing Communities Back to CUHK

Ka Po WONG and Dr. Vivian CHAN

Independent Learning Centre

"CUHK in Communities" is a writing-oriented project that aims at cultivating students' writing ability with solid research and deeper perspectives when they are engaging in their own communities. Our project not only encourages students to understand the making and evolving of the communities they grow and live, but also develops students' stronger involvement and sense of belonging in their communities as CUHK members and local citizens, who have deeper understanding of Hong Kong society.

In order to achieve the above goals and ensure students acquire the best knowledge and learning experiences, our project involves experts in different fields, including literary researchers, social historians, anthropologists, sociologists, writers and documentary filmmakers. By providing students with opportunities to practice writing, documenting and social research with professional guidance, their language skills as well as social research and documenting skills are consolidated.

There are channels for students to publish their works: a website for publishing essays and multimedia productions like galleries and documentaries, and a collection of selected essays to be published in 2019. While the workshops target at current CUHK students of all disciplines, our project welcomes all CUHK members to participate. To be specific, we have engaged several alumni to capitalize on their expertise in enhancing students' learning experiences through, for instance, community tours. The impact will certainly go beyond a unit/ department/ faculty and extend to the CUHK community as well as the society — In doing so, our project binds our students, colleagues and alumni in a strong esprit de corps.

P64. Segmenting the Profiles of University Students' Attitudes Towards Sustainability: Relations to Their Perceptions of Future Employment

Dr. Sally Wai-Yan WAN[1] and Shong-Tung LEUNG[2]

[1]Department of Curriculum and Instruction, Faculty of Education
[2]Department of Geography and Resource Management

The growth of the sustainability labour market is now in a rising trend. University education plays vital roles in fostering and empowering new generations in sustainable development. Yet scarce studies were done to understand the local university students' attitudes towards sustainability and their perceptions about employment in sustainability markets. The poster first attempts to present the profiles of university students' attitudes towards sustainability using a hierarchical cluster analysis. The poster then explores if there are any relationships between university students' attitudes towards sustainability and their perceptions of sustainability labour markets as well as learning expectations about sustainability using Chi-square tests and multivariate analysis of variance (MANOVA) tests. Data collection method mainly included an online survey which was conducted to 101 university students. Implications for university course development will be discussed at the end of the poster.

P65. From Customer to Learner: Exploring Learning Opportunities for CUHK Students through Consuming Goods from the On-campus Women's Co-op Store

Tsz Sum LAW[1], Ching Wong HUI[2], Hunn Hunn LAU[3], Wun Chi SIU[4] and Dr. Sally Wai Yan WAN[5]

[1]Student of Department of Environmental Science
[2]Student of Department of Chinese Language and Literature [3]Student of Department of Music
[4]Student of Department of Economics [5]Department of Curriculum and Instruction

The Women's Co-op Store has been serving CUHK staffs and students since 2001. Unlike some chain stores, the Women's Co-op Store has a clear vision and mission to promote the principles of co-operatives, striving for a more democratic economy as well as advocating for equality among workers. The purposes of this study are: (1) to identify whether the Women's Co-op has its intention to promote the co-operative principles through specific channels to CUHK students based on the Lasswell's model of communication (Lasswell, 1948); (2) to assess students' knowledge on the co-operative principles; (3) to examine if students' knowledge is correlated to different factors (including students' consuming behaviour and attitude, and the extent of exposure to the channels the Women's Co-op Store used); and (4) to investigate students' attitude change in response to the co-operative principles. In this study, a self-developed online survey was distributed to a convenience sample of 204 CUHK students in September 2017. Key findings included: (1) Moderate correlation was found between student's knowledge and the extent of their exposure to channels in which the Women's Co-op Store was used. (2) Using a pre-and post-test design concerning students' exposure to the co-operative principles about the Women's Co-op Store, the paired t-test indicated significant differences in students' attitudinal changes. The results concluded that learning is not limited to the process of consuming goods from service providers, especially those with determined vision and mission. Implications regarding students' preference on social media and interactive chats with the workers, together with the volunteering service offered by the Women's Co-op Store on the impacts of channels to deliver messages to learners and experiential learning opportunities will be discussed at the end of the poster.

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P66. 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.

P67. Effective Implementation of the Flipped Classroom Approach in Hong Kong Higher Education for Enhanced Learning Outcomes

Prof. Paul Lai Chuen LAM[1], Carmen LAU[1], Charlene LI[1],Prof. Michael FUNG[2] ,Dr. Theresa KWONG[3]
, Dr. Vincent LEUNG[4] ,Prof. Kevin CHAN[5],Dr. Crusher WONG[6] ,Dr. Ka Luen CHEUNG[7] ,Prof. Siu Cheung KONG[8]

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[5]Department of Applied Social Sciences, PolyU, [6]Office of the Chief Information Officer, CityU,
[7]Department of Mathematics and Information Technology, EdUHK,
[8]Centre for Learning, Teaching and Technology, EdUHK

This UGC-funded project is a collaboration of five universities in Hong Kong – The Chinese university of Hong Kong (CUHK), Hong Kong Baptist University (BU), The Hong Kong Polytechnic University (PolyU), The Education University of Hong Kong (EdUHK), and City University of Hong Kong (CityU). The notion of 'flipped classroom' has attracted much attention in recent years because it regarded to have strong theoretical basis of the learning enhancement. However, both teachers and students may encounter a lot of challenges in this new mode of learning. For example, the approach may disfavor less active learners, and students do not prepare before class. Through the collective effort of the participating universities, experiences and expertise will be shared to provide effective support in the following areas: Exposure, Incentive, Assess, Activities, and Evaluations. Good practices and resources will also be shared to allow practitioners to overcome the many challenges and harvest the best possible from the new pedagogy.

P68. uReply GO Learning Trips

Prof. Paul Lai Chuen LAM[1], Kevin Wong[1], Dr. Kent King Wa LEE[2], Dr. Pit Shun LAI[3] and Dr. Yin Yee LAI[3]

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uReply GO is a location-aware learning tool for teachers to easily customize learning paths for their students. Teachers simply drag-and-drop questions onto a map and then define the show/hide behavior of each of them. Complex learning trips can be easily compiled by teachers all by themselves. A number of interesting learning trips are now being designed by our pilot teacher-users.

P69. CUHK eLearning Community of Practice (eLCOP)

Prof. Paul Lai Chuen LAM[1], Dr. Isabel Shui Shan HWANG[2], Prof. Sidharth JAGGI[3], Dr. Fred Kei Tat KU[4],
Dr. Ann Sin Nga LAU[2], Dr. Frankie Kwan Kit WONG[5], Dr. Jacqueline Wai Ting WONG[6]

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Background

CUHK eLearning Community of Practice (eLCOP) is a teacher community at The Chinese University of Hong Kong formed in June 2017 to facilitate the dissemination, sharing and advancement of good practices through teachers' forming community of practice and giving each other mutual support.

Interest Groups

- Educational emerging technologies (e.g. virtual reality and augmented reality)
- Enriching classroom interactions and learning with technology
- Flipped classroom and blended learning pedagogical explorations
- Learning opportunities outside classroom with technology
- Micro Module Courseware Development
- Project-based learning and learning spaces

Activities in the Community

- regular interest group meetings
- experience-sharing workshops
- invited talks by service providers, practitioners in other local or overseas institutes
- nurturing of collaborative efforts to pioneer and write-up the innovative strategies.

P70. Student-Centred Open-ended Project Learning with Interactive Classroom (WMY 303)

Dr. Jacqueline WONG

[1]Department of Decision Sciences and Managerial Economics

I have been using the Student-Centred Open-ended Project for more than ten years. As one of the pilot testers of using the Interactive Classroom, which was launched in 2016. I have designed a set of activities (team building, guided learning, group discussion, role play…) to help student enjoy the innovative methods of teaching and learning by allowing students to communicate and collaborate in the effective way within their group and class. Students from DSME 2051 Business Information Systems (for year 2+), DSME 4220 Data Mining for Business Intelligence (for year 3+) and DSME 5210 Strategic Information Systems (for year 1+), all are invited to join this pilot test.