Teaching and Learning Innovation EXPO 2019/20

Date: 28 to 30 July 2020 (rescheduled)

Format: Online

Website: www.cuhk.edu.hk/eLearning/expo

Organizers

香港中文大學
The Chinese University of Hong Kong

Centre for Learning Enhancement And Research 學能提升研究中心

itsc Information Technology Services Centre

ELTA

Opening Ceremony

Group Photo

Professor Rocky S. TUAN
Vice-Chancellor of CUHK

Professor Alan K.L. CHAN
Provost of CUHK

Professor POON Wai-yin
Pro-Vice-Chancellor of CUHK

Keynote Addresses

Professor LAU Tat-ming Darwin
Faculty of Engineering
The Chinese University of Hong Kong

Keynote Address: Hands-On Lectures and Activities for Enriched Experiential Learning

Mr YUEN Pak-yan Bryan
Faculty of Education
The Chinese University of Hong Kong

Dr LEUNG Fung-lin Elean
Faculty of Education
The Chinese University of Hong Kong

Professor SUM Kim-wai Raymond
Faculty of Education
The Chinese University of Hong Kong

Keynote Address:
Nurturing a Physically Literate Life Journey

Professor Sidharth JAGGI
Faculty of Engineering
The Chinese University of Hong Kong

Keynote Address: Fully-Flipped Fully-Online Classes:
Leveraging Incentives to Create Online Communities of Learning

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Professor Rocky S. TUAN

Vice-Chancellor / President

Lee Quo Wei and Lee Yick Hoi Lun
Professor of Tissue Engineering and
Regenerative Medicine

The Chinese University of Hong Kong

MESSAGE FROM THE VICE-CHANCELLOR

In the face of the unprecedented challenges caused by the COVID-19 pandemic, it lifts our spirits to witness the expedient and inspirational actions taken by the dedicated teachers of CUHK in providing quality education to our students. Experimental pedagogies and technologies, and new communities and collaborative groups have been developed. I am particularly gratified at the results of the Course and Teaching Evaluation (CTE) exercise for Term 2 of 2019-20, and I am sure that there are lots of success stories and innovative ideas to be shared among us. I am therefore enthusiastically inviting all of you to participate in the first-ever online Teaching and Learning Innovation Expo (the Expo) to be held between 28-30 July 2020.

The Expo is one of the most important annual events at CUHK where teachers showcase their creative ideas and pedagogical practices in teaching and learning, providing an excellent platform for the exchange of ideas and exploration of new horizons in education. A special highlight of the Expo this year is the session “Challenges and opportunities: the social unrest and COVID-19 experience”, a forum for sharing the pains and gains in such turbulent times. I believe that the presentations will be both enlightening and inspiring.

I have continuously been impressed with the deep commitment of my CUHK colleagues in exploring and experimenting with novel teaching approaches for the benefits of our students. It is especially exciting to see how technological advances have enhanced and transformed teaching and learning, resulting in deeper understanding of the needs of students. I sincerely wish the Expo a great success and I look forward to your joining the event. Together, we will face and overcome the new challenges ahead with the spirit of innovation and collaboration.

Professor Alan K.L. CHAN

Provost

J.S. Lee Professor of Chinese Culture

The Chinese University of Hong Kong

MESSAGE FROM THE PROVOST

The Teaching and Learning Innovation Expo has served as an excellent platform for insightful teaching ideas since its launch in the year of 2007. This year, in response to the pandemic situation, the Expo will go online and be extended to a 3-day event from 28 July to 30 July 2020, with passionate teachers not only from CUHK but also from other institutions in Hong Kong sharing their good practices in teaching and learning.

On the first day, we will have the winners of the University Education Award 2019 sharing the secret to their success. Prof. Darwin Tat Ming LAU is from the Department of Mechanical and Automation Engineering and he was won the UGC Teaching Award last year. He will talk about the experience in providing rich hands-on experience for his students through capstone projects, competitions, and working with amputee patients. Dr. LEUNG Fung Lin Elean and her team in the Physical Education Unit will share how the instructional model of the Required Physcial Education Programme cultivates physical literacy and promotes students' lifelong physical activity. The last talk will be given by Prof. Sidharth JAGGI from the Department of Information Engineering. He will talk about his most recent experience in teaching a fully-flipped fully-online class. I look forward to learning more about their endeavours.

The Poster Presentations and Parallel Talks are always highlights of the annual event. The community-style atmosphere encourages teachers to freely and comfortably share their achievements, teaching innovations, advanced pedagogical approaches, and exciting educational research in the past year. These presentations will be grouped according to their theme and carried out from Day 1 afternoon to Day 3. I encourage all of you to find the themes that interest you and actively engage in the discussions.

In these difficult times, it is even more important for us to learn from and lean on each other. I believe that the sharing on teaching and assessment strategies in response to the class suspension in the past semester will be very meaningful and useful. I am excited to learn more from all of you.

INTRODUCTION

The**"Teaching and Learning Innovation Expo"**is an annual event since 2007, jointly organised by Centre for Learning Enhancement And Research and Information Technology Services Centre of the Chinese University of Hong Kong (CUHK).

The Expo provides an excellent mutually supportive platform for educators at CUHK, to share educational experience and insights with university community, where creative ideas or practices that lead to teaching and learning enhancement can be exchanged through conversation, interactive presentations and seminars.

We welcome all ideas and practices ranging from the course to the institutional level, regardless of whether technology is involved or not.

KEYNOTE ADDRESSES

Professor LAU Tat Ming, Darwin

Recipient of the 2019 UGC Teaching Award (Early Career Faculty Members)
Recipient of the University Education Award 2019 (Early Career)
Assistant Professor, Department of Mechanical and Automation Engineering

Title

Hands-On Lectures and Activities for Enriched Experiential Learning

Abstract

In this presentation, I will share my endeavours and experiences in providing a richer hands-on learning experience for our engineering students. With a STEP (student-teacher-experience-peer) ideology, this approach has been applied both within and outside the classroom, from interactive hands-on lectures where students directly learn robot theory with robots, to capstone projects and competitions, and even real-world projects to help amputee patients in need. These experiential activities not only arouse student interest to their studies, making it more fun and enjoyable, but also aim to improve the student learning outcomes.

Biography

Professor Darwin LAU is an Assistant Professor in the Department of Mechanical and Automation Engineering, CUHK. He received his PhD in robotics from the Department of Mechanical Engineering, the University of Melbourne in 2014. His research interests include robot kinematics and dynamics, cable-driven robots, biorobotics and construction robots. Professor LAU believes that hands-on and experiential learning are important elements within the education of engineering students. Through the teaching through "hands-on robotic lectures", student robotics competitions, final year projects and development of prosthetics for those in needs, the goal is to increase the students' interest, motivation, relevance to the real world and eventually to improve their learning outcomes. Professor LAU received the Dean's Exemplary Teaching Award, Vice Chancellor's Exemplary Teaching Award, University Education Award (Early Career) and the UGC Teaching Award (Early Career Faculty Members) in 2019.

Recording

KEYNOTE ADDRESSES

Recipients of the 2019 University Education Award (Team)

Team led by Dr LEUNG Fung-lin Elean with Professor SUM Kim-wai Raymond, Mr YUEN Pak-yan Bryan, Mr TANG Tsz-ming and Mr HO Wai-keung as team members

Keynote Speakers

Dr LEUNG Fung-lin Elean
Recipient of the 2019 University Education Award (Team)
Director, Physical Education Unit
Associate Dean of Students, New Asia College

Professor SUM Kim-wai Raymond
Recipient of the 2019 University Education Award (Team)
Associate Professor, Department of Sports Science and Physical Education

Mr YUEN Pak-yan Bryan
Recipient of the 2019 University Education Award (Team)
Assistant Director,
Senior Lecturer, Physical Education Unit

Title

Nurturing a Physically Literate Life Journey

Abstract

CUHK is privileged to be the only university in Hong Kong offering credit bearing Required Physical Education (RPE) Programme with quality courses that cover 19 sports items. Boasting a wide spectrum of Sports for All activities, the PE of CUHK aims to enhance the holistic health and well-being of students, as well as the citizens of Hong Kong, China and beyond.

The team from Faculty of Education assumes a leading role in designing the Sport Education curriculum for university students, and developed an innovative student-oriented pedagogy, which encourages students to share the responsibility during lessons. This instructional model is associated with better development of physical literacy, casting a significant impact on students' lifelong physical activity, motivation, confidence and intellectual growth.

Furthermore, the RPE Programme has engaged in technological support to supplement classroom teaching, and courses are designed to cater for the diverse needs, interests, and abilities of students.

Biography

Dr LEUNG Fung-lin Elean received her PhD from the Faculty of Education of the Chinese University of Hong Kong (CUHK). She is currently the Director of Physical Education Unit of CUHK and the Associate Dean of Students of New Asia College. She has been teaching the required Physical Education courses for more than twenty years. She is the recipient of the 2019 University Education Award (Team), twice recipient of the Vice-Chancellor's Exemplary Teaching Award in 2002 and 2017, Faculty Exemplary Teaching Award in 2004, 2006, 2007, 2008, 2012, 2013 and 2017. Her research interests include the efficacy of the internet for physical activity promotion among university students and physical activity promotion on university campus.

Professor SUM Kim-wai Raymond is currently an Associate Professor in the Department of Sports Science and Physical Education at the Chinese University of Hong Kong (CUHK). He received the B.Ed degree in physical education from the National Taiwan Normal University, Taiwan, in 1991, the M.P.E. degree in Athletic Administration from Springfield College, U.S.A. in 1992, and the Ed.D. degree from Leicester University, U.K. in 2009.

Raymond's research interests include the topic of 1) physical literacy and its application in different populations; 2) professionalization of physical education teachers and their learning communities; and 3) elite athletes' career and their lives.

Mr YUEN Pak-yan Bryan received his M. S. degree in Biomechanics and B. P. E. degree from Springfield College, U.S.A. in 1993 and 1991 respectively. He is currently the Assistant Director / Senior Lecturer of Physical Education Unit of CUHK. He has been teaching the required Physical Education courses for more than twenty-five years. He is the recipient of the 2019 University Education Award (Team), three times recipient of the Faculty Exemplary Teaching Award in 2000, 2003 and 2010. His research interests include the test and measurement of physical fitness for university students.

Recording

KEYNOTE ADDRESSES

Professor Sidharth JAGGI

Recipient of the University Education Award 2019
Associate Professor, Department of Information Engineering

Title

Fully-Flipped Fully-Online Classes: Leveraging Incentives to Create Online Communities of Learning

Abstract

This talk will narrate the speaker's recent experiences in teaching a fully-flipped fully-online freshman linear algebra class (65 students) for gifted students that incorporated:

- pre-recorded videos and automated interactive exercises
- real-time small-group problem-solving
- peer-to-peer teaching
- small-group projects and poster presentations
- a fully-online multi-phase exam (incorporating both individual and group-based problem-solving)

Attendance was always over 95% despite morning class, and both student enthusiasm (measured by surveys) and performance (measured by assessment) was comparable to previous live versions of the same class taught by the speaker. Key to this successful offering was a framework for careful design of incentives to instantiate desired community behaviour positively impacting specific learning activities -- the speaker will highlight this framework with multiple examples.

Biography

Professor Sidharth Jaggi has been with the Chinese University since 2007, and is currently an Associate Professor in the Department of Information Engineering.

He is a recipient of various Department and Faculty Teaching Awards, and is a CUHK University Education Awardee in 2019. The theme of Professor Jaggi's T&L philosophy is a novel market-driven framework to supercharge flipped classrooms – a key insight is that carefully designed market-style incentives coupled with appropriate graded learning activities can be used to create virtuous cycles of positive behaviours among students, and create a community of learning. He has been a leader at spreading lessons from this approach within the Chinese University (giving talks on T&L pedagogy, helping set up a community of practice, and helping other faculty members who try aspects of his T&L methods) and worldwide (via talks at and pedagogical research projects with other universities such as MIT, media interactions, and academic papers on pedagogical methods). Some of his innovative T&L strategies have found their way into classes taught by his colleagues in the Department and the Faculty, other Faculties such as Law and ELTU, and indeed even faculty in other institutions such as Rutgers, and IIT Bombay. He has been awarded 4 T&L grants to develop his novel T&L methodologies. He has also collaborated with CUHK's English Language Teaching Unit (ELTU)'s English Across the Curriculum (EAC) project to use bolster students' written and spoken communication skills in thesis projects – this collaboration is now used as a model of collaboration in capstone projects both within and outside CUHK.

He is also an award-winning researcher in the technical field of Information Theory, dealing with the mathematics of the fundamental limits of information storage, compression, storage, processing and security – he is particularly known in this field for the eponymous "Jaggi-Sanders" Algorithm, for his work on network coding, group testing, covert communication, and adversarial channels.

Recording

PANEL DISCUSSIONS

Panel Discussion:

Strategies to Prepare Teachers and Students for Teaching and Learning during COVID-19

Panel Members:

Mr. Darren HARBUTT
Senior Educational Development Officer, Educational Development Centre
The Hong Kong Polytechnic University

Professor Paul LAM
Associate Professor, Centre for Learning Enhancement And Research
The Chinese University of Hong Kong

Dr. Leon LEI
E-learning Technologist, Technology-Enriched Learning Initiative
University of Hong Kong

Dr. Crusher WONG
Senior Manager (e-Learning), Office of the Chief Information Officer
City University of Hong Kong

(Listed in alphabetical order of surnames)

Recording

Panel Discussion:
E-Assessment - What We Have Learnt

Panel Members:

Dr. KIANG Kai Ming

Senior Lecturer, Office of University General Education

The Chinese University of Hong Kong

Dr. Fred KU

Senior Lecturer, Department of Decision Sciences and Managerial Economics

Assistant Dean (Undergraduate Studies), CUHK Business School

Director, Integrated BBA Programme

The Chinese University of Hong Kong

Dr. Ann LAU

Senior Lecturer, School of Biomedical Sciences

Deputy Programme Director of BSc in Biomedical Sciences

The Chinese University of Hong Kong

Professor Vivian LEE

Associate Professor, Centre for Learning Enhancement And Research

The Chinese University of Hong Kong

(Listed in alphabetical order of surnames)

Recording

SPECIAL THANKS

Judges of the Poster Award

Representatives from the Higher Education Research and Development Society of Australasia (HERDSA HK)

Dr. King CHONG
Teaching and Learning Centre, Lingnan University

Dr. Beatrice CHU
Center for Education Innovation,
Hong Kong University of Science and Technology

Dr. Peter LAU
Centre for the Enhancement of Teaching and Learning,
The University of Hong Kong

(Listed in alphabetical order of last names)

Master of Ceremonies

(Principal) Miss Bertha NG, Year 2 (2019/20) student, School of Journalism and Communication, CUHK

Mr. Brian MOK, Year 2 (2019/20) student, School of Journalism and Communication, CUHK

Panel Discussion I :
Strategies to Prepare Teachers and Students for Teaching and Learning during COVID-19

Panel Discussion II: E-Assessment - What We Have Learnt

ABSTRACTS

POSTERS

APPS AND TOOLS

Learning Medical Abbreviations on Instagram

LEE VWY[1-4], NG EEN[1], YIU CL[2], TSANG ITY[4], CHAN AWT[4]
1. Centre for Learning Enhancement And Research, 2. The Nethersole School of Nursing, 3. Office of Medical Education, 4. School of Pharmacy

FOLLOW US ON Instagram MARSCUHK

香港中文大學 The Chinese University of Hong Kong

Centre for Learning Enhancement And Research 學能提升研究中心

Background

Students spend most of their time on social networking everyday. We believe that by utilizing social network platform can help engaging students in learning.

Summary of Work

- To provide user friendly mobile learning materials for studying medical abbreviations in order to interpret information efficiently.
- Developed Medical Abbreviation References for Synchronous-Learning (MARS), an e-learning model - for learning medical abbreviations.
- Most of the learning materials were uploaded on Instagram – the most popular social network platform.

Objectives

- Engage learning through social network platforms
- Provide mobile-friendly and interesting learning materials to university students.
- Equip students for community outreach, clerkship training and future profession

Features

The model includes following features and we opened an Instagram account to host all customized memes of the abbreviations. The complete model and the features can be found at www.cuchampion.com/marscuhk

90 Terms
Medical Abbreviations

Memes, Emoji & Hashtags

Abbreviation Search

Study Cards

Questions Bank

What is a Meme?

Image or video which is typically humorous in nature which represents the thoughts and feelings of a specific audience. It is a way of expressing a culturally-relevant idea.

Our Memes

The graphics contained subtle connection to the terms' definition. We also provide definition of the terms in the post with hashtags which made the content discoverable and extended humorous outcomes of the posts.

Sample of our memes

Implementation & Findings

We invited 54 pharmacy and 60 other health sciences students to have hands on experience of the model and conduct self assessment before and after using the platform for impact evaluation. Their feedbacks and survey figures indicated that the model did help their learning and the project completed satisfactorily. The students agreed that the model was useful and helpful for them in following areas:

Communicate with other healthcare professionals during clinical clerkship
- Pharmacy Students: +28% (P=0.0002)
- Other Students: +24.4% (P=0.0003)

Helpful to explain medical terms to patients
- Pharmacy Students: +20% (P=0.0001)
- Other Students: +22.1% (P=0.0007)

Easiness to study medical abbreviations
- Pharmacy Students: +40.2% (P<0.0001)
- Other Students: +37.7% (P<0.0001)

On a scale of 1 to 5, with 1 being strongly disagree and 5 being strongly agree, the students responded as below:

Increased interest for learning medical abbreviations
- Pharmacy Students: 3.8 (P<0.0001)
- Other Students: 3.8 (P<0.0001)

The content for learning medical abbreviations was useful
- Pharmacy Students: 3.8 (P<0.0001)
- Other Students: 3.9 (P<0.0001)

Overall Satisfaction
- Pharmacy Students: 3.7 (P<0.0001)
- Other Students: 3.8 (P<0.0001)

Conclusion

The findings in this project were rewarding and gave us new insights on how to maximize the use of new media platform to develop new teaching approach for today's university students. Develop modules that share university students' interest is helpful to improve their perspective, attitude and motivation on complicated subjects. Nevertheless, we believe that it takes both teachers and students' effort to discover new study methods to improve overall learning experience and outcomes.

P59: Learning Medical Abbreviations on Instagram

Presented by
Prof. Vivian Wing Yan LEE, Centre for Learning Enhancement And Research, The Chinese University of Hong Kong
Ms. Catherine Lok YIU, The Nethersole School of Nursing, The Chinese University of Hong Kong
Ms. Artemis Wing Tung CHAN, School of Pharmacy, The Chinese University of Hong Kong
Mr. Enoch E Nok NG, Centre for Learning Enhancement And Research, The Chinese University of Hong Kong
Ms. Ivy Tsz Yan TSANG, School of Pharmacy, The Chinese University of Hong Kong

Abstract
Background:
Students spend most of their time on social networking everyday. We believe that by utilizing social network platform can help engaging students in learning.

Summary of Work:
We aimed at providing easy to use and mobile friendly learning materials for students to be familiarized with various medical abbreviations in order to interpret information efficiently. In this project we developed an e-learning model for learning medical abbreviations. This model included a self-learning webpage and an Instagram account (@marscuhk) that introduced 90 medical abbreviations.

Summary of Result :
We received feedbacks and pre/post project survey data from over 100 Pharmacy year 3 and other Faculty of Medicines students of different disciplines. Nearly 90% of interviewed students use Instagram as their major social media platform.

In addition, they agreed that the website and Instagram account and their contents were useful and helpful for them in following areas: communicate with other healthcare professionals during clinical clerkship (Pharmacy students:+28%, p=0.0002, other students :+24.4%, p= 0.0003); helpful to explain to patients (Pharmacy students: +20%, p=0.001388, other students : +22.1%, p= 0.0007); increased their knowledge (Pharmacy students : 18.4% , p=0.0014, other students : +12.7%, p= 0.0291)

Discussion & Conclusion:
Students' feedbacks and survey figures indicated that the model did help their learning and the project completed satisfactorily.

Take-home Message:
Providing innovative and interesting learning methods to students can improve their attitude and motivation on complicated subjects.

View **Poster**
View **Video**

Online Venue
Room B

Areas of Interest
Apps and Tools

Learning Chemistry via "Science Mobile"

Prof. Michael KWONG, Dr. Wing Fat CHAN, Dr. Yu San CHEUNG

Department of Chemistry

To promote ubiquitous learning in Chemistry, "Science Mobile" is introduced and implemented into courses for students. Until June 2020, over 550 Chemistry learning topics have been uploaded to the platform. The learning topics cover a wide range of contents including the introduction and operation of common analytical instruments, demonstrations of experimental techniques and some basic chemical knowledge in daily life.

To promote students to learn science across the boundaries of disciplines, we focus on ubiquitous learning to promote knowledge integration from different sub-disciplines in Chemistry. The objects are embedded into different learning pathways and modules, which allow students to appreciate the connections between scientific concepts and applications. QR codes, barcodes and RFID tags can be scanned to access the learning objects to achieve ubiquitous learning.

A number of learning objects in the formats of videos, photos, textual descriptions, and webpages are produced under three important themes in Chemistry:

(i) food, drugs and organic chemistry,

(ii) traditional and modern materials, and

(iii) chemical analytic methods and their applications in society.

Learning Modules

Learning modules are available to allow students explore more about the objects. The materials are sort by topics or courses and allow students to search for information in a systematic manner. Assessments are also available for students to assess their understanding after reading the pages.

Examples of learning modules:

- Analytical Instruments
- CHEM3820 Organic Chemistry Laboratory III
- UGEB2440 Chemistry of meat

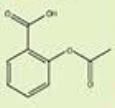
Food, Drugs and Organic Chemistry

Examples of the learning objects:

- Apartame (E951)
- Aspirin
- Carbohydrates
- Coca-cola Zero
- Gelatinization of starch

Examples of the learning modules:

- Basic Chemistry
- Beverages
- Food additives
- Common over-the-counter drugs



Financial Support of this Project:

UGC Teaching and Learning Related Funding (2016-2019)

Traditional and Modern Materials

Examples of the learning objects:

- Gold alloy
- Plasticizers
- Polyethylene
- Polyvinyl chloride
- Polymerization reactions: addition and condensation

Examples of learning modules:

- Ceramics
- Examples and uses of polymers
- Examples and uses of alloys (being developed)

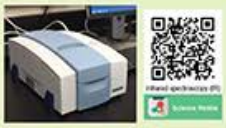
Chemical Analytic Methods and their Applications in Society

Examples of the learning objects:

- Electromagnetic radiation
- Infrared spectroscopy (IR)
- NMR: Aniostropic effect
- Simple distillation
- XRF: Analysis of a Chinese bronze mirror

Examples of the learning modules:

- CHEM3870 Analytical Chemistry Laboratory II
- Basic laboratory techniques
- Schlenk technique



Summary of deliverables:

Until June 2020, around 90% of the learning objects have been prepared so far, and the rest are being produced. The finished learning objects are being uploaded to the e-learning platform. By the end of December 2020, all learning objects will be prepared and uploaded to the e-learning platform.

The learning platform is being introduced into a number of science major and general education courses, examples are:

- CHEM2820 Organic Chemistry Laboratory I
- CHEM3810 Organic Chemistry Laboratory II
- CHEM3870 Analytical Chemistry Laboratory II
- UGEB2420 Chemistry in the Kitchen
- UGEB2440 Chemistry of Food and Drinks

Science Mobile

Download on the App Store

GET IT ON Google Play

P60: Learning Chemistry via "Science Mobile"

Presented by
Dr. Kendrew Kin Wah MAK, Department of Chemistry, The Chinese University of Hong Kong
Prof. Fuk Yee KWONG, Department of Chemistry, The Chinese University of Hong Kong
Dr. Wing Fat CHAN, Department of Chemistry, The Chinese University of Hong Kong
Dr. Yu San CHEUNG, Department of Chemistry, The Chinese University of Hong Kong

Abstract
To promote ubiquitous learning in Chemistry, "Science Mobile" is introduced and implemented into courses for students. A number of learning objects in the formats of videos, photos, textual descriptions, and webpages are produced under three important themes in Chemistry: (i) food, drugs and organic chemistry, (ii) traditional and modern materials, and (iii) chemical analytic methods and their applications in society. Until October 2019, over 260 Chemistry learning objects have been created and they will be uploaded to the platform. The learning objects cover a wide range of contents including the introduction and operation of common analytical instruments, demonstrations of experimental techniques and some basic chemical knowledge in daily life. To promote students to learn science across the boundaries of disciplines, we focus on ubiquitous learning to promote knowledge integration from different sub-disciplines in Chemistry. The objects are embedded into different learning pathways and modules, which allow students to appreciate the connections between scientific concepts and applications. QR codes, barcodes and RFID tags can be scanned to access the learning objects to achieve ubiquitous learning.

View **Poster**
View **Video**

Online Venue
Room B

Areas of Interest
Apps and Tools

"Science Mobile" - Learning Science with a Smartphone

Dr. Kendrew MAK*, Dr. Cheung-Ming CHOW#

*Department of Chemistry, CUHK, #School of Life Science, CUHK

Introduction

"Science Mobile" is developed as a portable learning platform to facilitate students learning science concepts across different science disciplines in daily life. All learning objects are hosted by a web-based learning management platform. "Science Mobile" has been launched in App Store in IOS system and Google Play in Android system since April 2019. Students can install the apps into their smartphones to view the learning objects for ubiquitous learning.

Download on the App Store

GET IT ON Google Play

Portable learning platform - *Students*

- Students can access the learning objects by
  - ✓ scanning **barcodes**;
  - ✓ scanning **QR codes**;
  - ✓ scanning **RFID**; or
  - ✓ searching with **keywords / hashtags**.
- Content of the learning objects includes
  - ✓ textual description;
  - ✓ photos / images; and
  - ✓ videos.
- Learning objects are sorted into 6 different themes under Chemistry and Life Sciences.
- Assessments are available to test students' understanding on the topics.
- Learning modules are available to allow students explore more about the objects.

User guide

YouTube

① Looking for QR codes / barcodes on the learning objects

② Scanning the QR code / barcode

③ Displaying information in the app

Web-based learning management system - *Teachers*

YouTube

- Teachers can upload
  - ✓ learning objects;
  - ✓ multi-media (e.g. audio, videos and photos); and
  - ✓ assessments; and
- Reports on the assessment of students can be generated to evaluate their performance.
- Learning modules can be created to allow students explore more about the objects.

To promote interactive learning, in some UGEB courses, students are invited to create learning items for the platform, with 310 topics created in 2 terms.

Summary of deliverables:

Until July 2020, the approximated number of the learning items is summarized in the following table.

	Chemistry	Life Sciences
No. of topics	598	328
Textual content	598	328
Photos / Images	975	1284
Lecture videos / Animations / Demonstration videos	221	62
Learning modules	37	15

Financial Support of this Project:

UGC Teaching and Learning Related Funding (2016-2019)

P61: "Science Mobile" – Learning Science with a Smartphone

Presented by
Dr. Kendrew Kin Wah MAK, Department of Chemistry, The Chinese University of Hong Kong
Dr. Cherry Cheung Ming CHOW, School of Life Sciences, The Chinese University of Hong Kong

Abstract
"Science Mobile" is developed as a portable learning platform to facilitate students learning science concepts across different science disciplines in daily life. All learning objects are hosted by a web-based learning management platform. "Science Mobile" has been launched in App Store in IOS system and Google Play in Android system since April 2019. Student can install the apps into their smartphones to view the learning objects for ubiquitous learning.

Students can access the learning objects by scanning the corresponding barcodes, QR codes and RFID, or by searching with relevant keywords and hash tags. The learning objects are displayed with images, textual description, videos, or related websites. Hyperlinks and hash tags allow students to explore the relationship among different learning objects. Assessment can be assigned to students for assessing their understanding on certain learning objects. Modules are available for relating the learning objects to build a learning pathway. Teachers can upload the learning materials and the related assessment items through the teacher panels. Students' performance can be viewed by generating reports on the assessment to evaluate students' understanding.

View **Poster**
View **Video**

Online Venue
Room B

Areas of Interest
Apps and Tools

Using uReply activity in an introductory first aid casualty scenario game for junior secondary school students

Anna Lee[1], Cheng Yee Han[2], Amar Sharma[3], Kevin Wong[4]

[1] *Department of Anaesthesia and Intensive Care, The Chinese University of Hong Kong*
[2] *Accident and Emergency Department, Queen Elizabeth Hospital*
[3] *Yew Chung International Secondary School*
[4] *Centre for Learning Enhancement And Research, The Chinese University of Hong Kong*

Introduction

Game-based learning for small group classes can foster active and experiential learning, teamwork, problem solving and critical thinking skills.[1]

Educational goals of first aid training for junior secondary school include knowledge and skills in calling emergency number, choking, recovery positioning, wound and burn care, stopping bleeding and managing minor injury to bones, muscles or joints.[2]

We developed and assessed a 2.5 hour introductory non-resuscitative first aid course for 140 secondary school students (11-12 years old). This included a 0.5 hour game-based formative assessment component, designed to facilitate student's integration and application of first aid knowledge and decision-making skills.

First aid casualty scenario game

After practical first aid skills training (1.5 hours) by volunteer physicians, students formed small groups (4-7 students/team) to compete with one another by responding to a case study scenario (Table 1). Each group answered 8 multiple choice questions (MCQs) using uReply (single-item session component) on iPad devices. This was followed by instructors assessing students' role play of injured classmates and first aid responders for treating minor abrasions, ankle sprain, choking and scald injury using first aid kits.

Table 1. Game-based (formative assessment) casualty case study scenario

Scenario *You and your classmates are going camping in Sai Kung Country Park on a sunny day. Suddenly, one of your classmate sprains his ankle while hiking and falls down. He has abrasions to both knees. At lunch, another classmate chokes when eating a fish-ball. A third classmate accidentally pours boiling water onto his forearm, resulting in second degree scald (burn) injury. How would you respond?*		
MCQs (Choose the best answer)	Responses (*correct answer)	
Q1. Which of the following is not an objective for first aid?	A. Confirm patient is dead*	B. Preserve life
	C. Prevent worsening of injuries	D. Promote recovery
Q2. What is the most important first step when performing first aid treatment?	A. Assess airway of patient	B. Count number of patients
	C. Assess scene safety*	D. Prepare first aid equipment
Q3. Which of the following injuries has the top priority to receive treatment?	A. Knees abrasion	B. Forearm scald injury
	C. Choking*	D. Sprained ankle
Q4. What is the most effective way to stop bleeding?	A. Indirect pressure	B. Direct pressure*
	C. Cover wound	D. Haemostatic powder
Q5. Cyanosis refers to the mouth and mucosa of patients turning into what colour?	A. Yellow	B. White
	C. Red	D. Blue*
Q6. Which of the following is not an ideal improvised dressing?	A. Clean bed sheet	B. Clean handkerchiefs
	C. Plastic bag*	D. Clean towels
Q7. Which of the following is not a correct management for ankle sprain?	A. Massage ankle*	B. Rest ankle
	C. Ice compression	D. Elevate ankle
Q8. Which of the following is an appropriate management for scald wound?	A. Puncture blister	B. Apply soy sauce onto wound
	C. Irrigate wound with plenty of running water*	D. Tear off clothing sticking on wound
Q9. Minor abrasions to knees **Q10. Ankle sprain** **Q11. Choking** **Q12. Scald injury**	Correct treatment (instructors mark Pass/Fail)	Total score: ____/12

Experience of secondary school students

- During the morning session, 70 students (12 small teams) used the uReply software together in a large learning space classroom. Of the 8 groups that answered all 8 MCQs correctly (Figure 1), Team "MarieCurrie" was the fastest.
- Due to unforeseen changes, 70 students (12 small teams) in the afternoon session completed all MCQs on paper with their allocated instructors in their individual classrooms. All 24 teams completed ≥2 of 4 skills assessments satisfactorily (Figure 2).
- The median (IQR) team score was higher using the uReply software compared to the paper format (12 [10-12] versus 10 [9-11]; Figure 3).
- Most students (95%) strongly agreed or agreed to the statement "The course learning outcome to perform first aid to deal with choking, bleeding, sprain/strain and burns was met."

Figure 1. Student small group ranking results after completing 8 MCQs.

Figure 2. Formative first aid skill assessment of students by an instructor

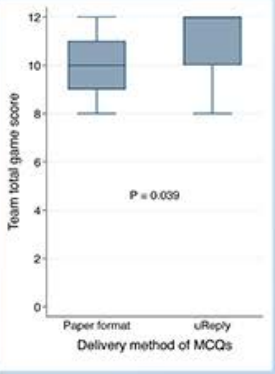


Figure 3. Box plots showing difference in team total game score by delivery method of multiple choice questions, adjusted for within team correlations

Further improvements

To enable more flexibility for teams to work at their own pace competitively, uReply activity ranking in the multiple-item session component is suggested in the next update.

References

1. Patel J. Am J Pharm Educ 2008;72:21.
2. De Buck E, et al. Resuscitation 2015;94:8-22.

Acknowledgement

We thank the volunteer physicians from Queen Elizabeth Hospital and Prince of Wales Hospital for their help with developing and teaching the course material, and assessing the students' first aid skills.

Contact us

Prof Anna Lee, Department of Anaesthesia and Intensive Care, The Chinese University of Hong Kong. Email: annalee@cuhk.edu.hk

P62: Using uReply Activity in an Introductory First Aid Casualty Scenario Game for Junior Secondary School Students

Presented by
Prof. Anna LEE, Department Anaesthesia and Intensive Care, The Chinese University of Hong Kong
Dr. Yee Han CHENG, Accident and Emergency Department, Queen Elizabeth Hospital
Mr. Amar SHARMA, , Yew Chung International Secondary School

Abstract
Game-based learning for small group classes can foster active and experiential learning, teamwork, problem solving and critical thinking skills. Activity ranking in uReply, a web-based Student Response System, is a new feature in the single-item session component. We describe our experience of using uReply activity ranking in an introductory first aid casualty scenario game for junior secondary school students.

Educational goals of first aid training for junior secondary school include knowledge and skills in calling emergency number, choking, recovery positioning, wound and burn care, stopping bleeding and managing minor injury to bones, muscles or joints. As part the Department of Anaesthesia and Intensive Care Knowledge Transfer Outreach Project, we developed and assessed a 2.5 hour introductory non-resuscitative first aid course, with a game-based formative assessment component, for 140 secondary students (11-12 years old).

Immediately after practical skills training by volunteer physicians, students formed small groups to compete with one another by responding to a scenario with several events during a school camping trip in Sai Kung Country Park. Seventy students used uReply activity ranking on iPad devices to respond to eight multiple choice questions and instructors assessed students' role play of injured classmates and first aid responders for treating minor abrasions, ankle sprain, choking and scald injury using first aid kits. The remaining 70 students used a paper-based format instead of uReply. The median (IQR) team score (out of 12) was higher in the uReply group (11.5, 10.3-12.0) than the paper-based format group (10, 9.3-11.0) [P=0.045]. To enable more flexibility for teams to work at their own pace competitively, uReply activity ranking in the multiple-item session component is suggested in the next update.

View **Poster**
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Online Venue
Room B

Areas of Interest
Apps and Tools

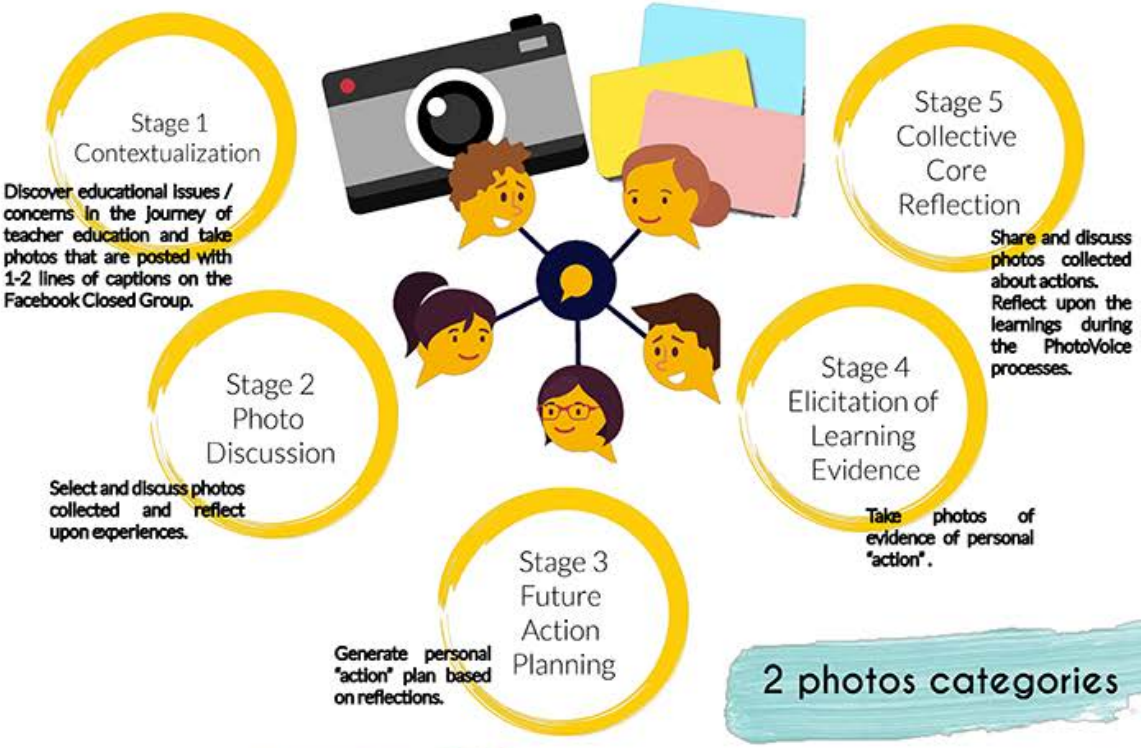
CURRICULUM ENHANCEMENT

"Getting ready to teach" using Photovoice within a collaborative action research project

Presented by:
Sally Wai-Yan Wan, Carson Ki-Wing Chu, Ho-Hei Angus Cheng, Sein-Yue Elim Hui, Chun-Kit Ken Fung, Howard Hoi-Wik Yu & Brian Cho-Fung Chan
Faculty of Education, CUHK
Corresponding email: sallywywan@cuhk.edu.hk

What is 'Photovoice'?

The project used 'Photovoice', a methodological tool seldom applied in the initial teacher education context to empower participants to voice and critically reflect by thinking deeply about their context, difficulties and emotions faced, using images to foster critical consciousness and identities, and co-construct possibilities for change (McIntyre, Youens, and Stevenson, 2019).



2 photos categories

'Pedagogy' and 'Role of Teacher'

Findings and discussions

- Having inadequate support for developing teachers as reflective practitioners
- Reflecting on the beliefs and orientations toward education
- Expressing concerns about the developing practice as educators

P20: "Getting Ready to Teach": Photovoice as a Collaborative Action Research in Initial Teacher Education

Presented by
Dr. Sally Wai-Yan WAN , Department of Curriculum and Instruction , The Chinese University of Hong Kong
Mr. Carson Ki-Wing CHU, Department of Curriculum and Instruction , The Chinese University of Hong Kong
Mr. Angus Ho-Hei CHENG, Department of Curriculum and Instruction , The Chinese University of Hong Kong
Miss. Elim Sein Yue HUI, Department of Curriculum and Instruction , The Chinese University of Hong Kong
Mr. Ken Chun-Kit FUNG, Department of Curriculum and Instruction , The Chinese University of Hong Kong
Mr. Howard Hoi-Wik YU, Department of Curriculum and Instruction , The Chinese University of Hong Kong

Abstract
This poster is to share our findings of a Photovoice participatory, community-based research that targets at creating and documenting prospective teachers' reflective dialogues about their learning experiences in initial teacher education. Beginning teachers always encounter struggles and challenges towards the real school context. Prospective teachers have to get well-prepared through bridging between theory and practice under the facilitation of critical reflection during the journeys of teacher education. In this Photovoice collaborative action research, 19 prospective teachers in a public university in Hong Kong participated and engaged in critical dialogues about their concerns, as followed by the development of their individual action plans, where they had opportunities to reflect upon their own action plans with core reflection approach. The findings of the study highlighted the obstacles and concerns that prospective teachers faced, action plans for overcoming such challenges, and core reflections upon these actions. This study also suggested the feasibility of using Photovoice as a tool to facilitate reflective dialogues in teacher education.

View **Poster**

Online Venue
Room A

Areas of Interest
Curriculum Enhancement

香港中文大學
The Chinese University of Hong Kong

香港中文大學醫學院
Faculty of Medicine
The Chinese University of Hong Kong

An Integrated and Multimodal Approach to Teaching Anatomy & Physiology to Speech & Language Pathology Students

Valerie PEREIRA, PhD[1,2] , Jason S.L. KAN, MSc[1,2] **& Michael C.F. TONG,** PhD[1,2]

[1]Department of Otorhinolaryngology, Head & Neck Surgery, CUHK

[2]The Institute of Human Communicative Research, CUHK

Introduction:

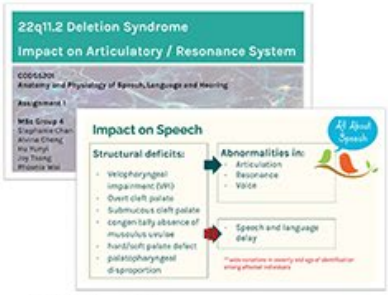
Speech and Language Pathology (SLP) students perceive the learning of anatomy and neuroanatomy as one of the more challenging subjects in the SLP curriculum. Studies that have looked at SLP student learning experiences[1] and effectiveness of pedagogies[2-3] in enhancing knowledge acquisition and retention[5] have found evidence to support an integrated approach and multi-modal teaching paradigm.

The Anatomy & Physiology in Speech, Language and Hearing course is a core course offered on the new 2-year Master of Science in Speech-Language Pathology Programme at CUHK. The course can also be taken during the 1-year Professional Diploma in Human Communication Disorders & Sciences.

Course Assessment Methods

Laboratory Exam

Online Quizzes



Expert Groups

Pedagogical Enhancing Elements

Computer-Aided Instruction & Learning (CAI & CAL)

CUHK Library Key Multimedia Databases

Laboratory Sessions (Multi-Faculty, Anatomage Table, 3D Models)

Choh-Ming Li Basic Medical Sciences Building, Dissecting Lab

Artistic Approaches

Drawing the Facial Muscles

Medical Imaging

Speech Nasendoscopy

Student Feedback

"I really like the idea of having a number of lecturers who are each an expert in their fields to teach this course. I particularly appreciate that Mr. Jason Kan and Dr Pereira use different approaches to help us remember the anatomical terms"

"Really enjoyed the whole programme, esp. the lab sessions, very rewarding. The lab sessions give a clearer idea of what we have been learnt in classes, to check our understanding. Neuro is difficult." Hopefully to be less demanding"

"Really enjoyed the lab sessions. Thank you."

CTE RATING

Overall I am satisfied with this course (Course mean=5.222 out of 6.000)

References

1 Martin K, Bessell NJ, Scholten I. The perceived importance of anatomy and neuroanatomy in the practice of Speech-Language Pathology. *Anat Sci Educ.* 2014; 7: 28-37.

2. Estal M, Bunt S. Best teaching practices in anatomy education: A critical review. *Annals of Anatomy.* 2016; 208: 151-157.

3. Losco CD, Grant WD, Armson A, Meyer AJ, Walker BF. Effective methods of teaching and learning in anatomy as a basic science: A BEME systematic review: BEME guide no. 44. *Medical Teacher.* 2017; 39(3): 234-243. doi: 10.1080/0142159X.2016.1271944

P21: An Integrated and Multimodal Approach to Teaching Anatomy and Physiology to Speech and Language Therapy Students

Presented by
Dr. Valerie J PEREIRA, Department of Otorhinolaryngology, Head and Neck Surgery, The Chinese University of Hong Kong
Mr. Jason KAN, Department of Otorhinolaryngology, Head and Neck Surgery, The Chinese University of Hong Kong

Abstract
Speech and language therapy (SLT) students perceive the learning of anatomy and neuroanatomy as one of the more challenging subjects within the SLT curriculum. The subject remains an obligatory one as there is an evolving role of the profession in clinical service areas with a strong medical focus e.g. dysphagia, neuro-rehabilitative intervention, acknowledged by the various accrediting professional bodies globally. Studies have looked at student learning experiences (Martin et al., 2016) and effectiveness of types of pedagogies (Skinder-Meredith, 2010, Javaid et al., 2018; Estai and Bunt, 2018) in enhancing knowledge acquisition and retention (Losco et al., 2017) as well as instilling a greater appreciation for its clinical relevance. The evidence points to an integrated approach and multi-modal teaching paradigms.

The anatomy and physiology course run within the newly introduced MSc in SLT at CUHK, adheres to this pedagogical framework. The course lectures are given by multiple faculty members (SLTs, ENT surgeons) with supported examples of pathological functions and clinical examples, supplemented with medical laboratory sessions where students have access to 3D anatomy models and the Anatomage table (interactive and life-size 3D anatomy visualization system). Cadavers and prosections are expensive and are more relevant to medical students and trainee surgeons. Other pedagogical elements include Computer-Aided Instruction (CAI) or Learning (CAL) and web-based computer animations, which offer better visualisation of structures. Another relevant learning enhancement is Living Anatomy, where students engage in Peer Physical Examination (PPE) e.g. oro-motor examination. Student feedback has been positive towards this integrated and multi-modal teaching paradigm.

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Online Venue
Room A

Areas of Interest
Curriculum Enhancement

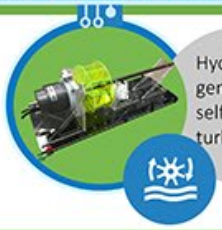
Smart Garden
CUHK

CUHK Smart Garden: An Innovative Teaching and Learning Platform for Renewable and Recycling Devices Development

Dongkun HAN, and Asta Lai Fan LAI
Department of Mechanical and Automation Engineering, CUHK

Renewable Energy Devices Development

Wind turbine with 3D printing materials.



Hydropower generator and self-made water turbine.

Solar panel with hybrid multi-junction concentrator.

Key Features of the Platform

Irrigation system

Aquaponic tank

Robotic collector

Interest group

Lab sessions

Research

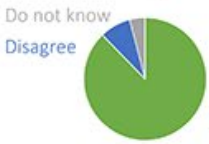
Feedback from Students

It was of great pleasure for me to learn and study at the Smart Garden.

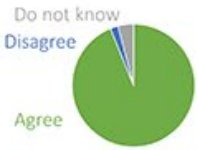
I found my learning quite easy with the help of the devices and facilities at the Smart Garden.

Life is much easier with the hands-on experience and practical exercises.

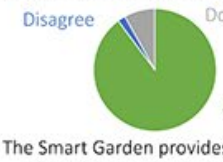
The Smart Garden gives me a valuable attitude toward a green society.



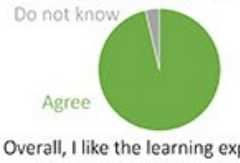
The Smart Garden helps me to understand the basic concepts in energy.



The Smart Garden makes my study more interactive and interesting.



The Smart Garden provides an effective way to produce renewable devices.



Overall, I like the learning experience based on the Smart Garden.

Acknowledgement

This project is supported by the Teaching Development and Language Enhancement Grant from the Chinese University of Hong Kong. We appreciate the active participation from 3 interest groups and students from courses UGEB1307 and EEEN2020.

香港中文大學 The Chinese University of Hong Kong
學能提升研究中心 Centre for Learning Enhancement And Research
itsc Information Technology Services Centre
Department of Mechanical and Automation Engineering 機械與自動化工程學系
Smart Garden CUHK

P22: CUHK Smart Garden: An Innovative Teaching and Learning Platform for Renewable and Recycling Devices Development

Presented by
Dr. Dongkun HAN , Department of Mechanical and Automation Engineering, The Chinese University of Hong Kong
Dr. Asta Lai Fan LAI , Department of Mechanical and Automation Engineering, The Chinese University of Hong Kong

Abstract
With increasing challenges of global warming and climate changes in recent years, our society is currently facing more severe issues of energy crisis and environmental destruction. In order to help students to acquire a comprehensive understanding of energy crisis, and more importantly, to provide solutions for these issues, we propose the project of CUHK Smart Garden. As a teaching and learning platform, the smart garden intends to achieve the following two objectives: 1) Renewable energy technologies would be imparted to undergraduate students from all backgrounds. Renewable energy devices (like solar panels, wind turbines, and hydropower equipment) and recycling facilities (like autonomous irrigation systems for plants in the garden, waste filtering and collection systems for fish pond, sweeping and waste collecting robots), would be developed by participating students themselves. 2) This project aims to develop an innovative pedagogical approach: A student-directed flipped classroom is proposed where students maximize the learning outcome by recording the experimental procedure, producing and editing their videos for teaching students from other groups. Combined with new teaching methodologies, like online peer-evaluation, forum discussion, and student self-made quizzes, this teaching and learning pedagogy enables multi-dimensional communications and interactions in sorts of levels including inner-group, inter-group, student-instructor, inside-outside the screen. More importantly, hands-on experience of independent groups in conducting experiment or practical lab sessions would be recorded, reviewed, and learned by other groups. The project demonstrates its effectiveness in university-wide interest groups (5 groups per year) and existing courses (UGEB1307 Energy and Green society, EEEN2020 Renewable Energy Technologies).

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Online Venue
Room A

Areas of Interest
Curriculum Enhancement

FLIPPED CLASSROOM APPROACH

香港中文大學
The Chinese University of Hong Kong

香港中文大學醫學院
Faculty of Medicine
The Chinese University of Hong Kong

Application of the Flipped Classroom and Case-based Learning in a Pre-clinical Speech, Language, and Hearing Sciences Course

Iris H.-Y. Ng, Michael C.F. Tong, Kathy Y.S. Lee
Department of Otorhinolaryngology, Head & Neck Surgery
The Institute of Human Communicative Research

Background:

- Professional Diploma in Communication Disorders and Sciences is first offered in 2019
- Pre-clinical foundational programme for the MSc SLP programme
- Provide students with the opportunity to apply and integrate theory into practice through the observation of real clinical contexts

Project Aim:

Outcome assessment for flipped classroom and case-based learning

Implementation:

- Pre-class online video for basic theories
- Individual Readiness Assurance Test (iRAT) at the beginning of classes through online learning platform
- In-class group discussion for case-based learning, either face-to-face or through online learning platform
- Outcome assessment through online learning platform

Results:

- Formative assessment – Individual readiness assurance test, distribution of students' ability roughly matches that of item difficulty, implying that students gained knowledge from pre-class work as expected

- Summative assessment – from the 2 quizzes, 1 administered online and 1 face-to-face, distribution of students' ability is higher than that of item difficulty, implying that students' learning through both pre-class work and in-class case-based learning exceeded our expectation

Implications:

Flipped classroom approach and case-based learning did serve the purposes of pre-clinical foundational learning, to apply theory into practice through the observation of clinical contexts

Outcomes have not been jeopardized by the mixed-mode / online teaching and learning

P12: Application of the Flipped Classroom and Case-based Learning in a Pre-clinical Speech, Language, and Hearing Sciences Course

Presented by
Dr Iris Hoi-yee NG, Department of Otorhinolaryngology, Head and Neck Surgery & Institute of Human Communicative Research
Prof. Kathy Yuet-sheung LEE, Department of Otorhinolaryngology, Head and Neck Surgery, Institute of Human Communicative
Prof. Michael Chi-fai TONG, Department of Otorhinolaryngology, Head and Neck Surgery & Institute of Human Communicative

Abstract
It has been suggested that the flipped classroom is a useful model for pre-clinical health professional education. The flipped classroom approach enables students to spend their time in classroom for integration and application of knowledge, as led by the instructor. Knowledge from foundational materials can be learnt outside of class via assigned materials.

The Professional Diploma in Communication Disorders and Sciences is first offered in 2019, as a pre-clinical foundational programme for the Master of Science in Speech-Language Pathology programme. Case-based learning has been implemented in one of the new courses in the diploma programme offered in the first semester (September) 2019, the Psychology for Speech, Language, and Hearing Sciences course.

Students are expected to learn through assigned online videos before class, and answer readiness assurance questions at the beginning of their class. Students then work in small groups either face-to-face or through online learning platform to apply the knowledge in specific scenario, discuss cases, and achieve consensus to answer open-ended questions reflecting their critical thinking and active learning. Considering the variation in knowledge on psychology across the students from different backgrounds, this is believed to be an effective model of learning and teaching.

Both formative and summative assessment results, mostly assessed through online platform, indicated satisfactory outcomes from this output-based instruction. Rasch analysis based on Item Response Theory also suggested satisfactory outcomes from the learning and teaching.

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Online Venue
Room B

Areas of Interest
Flipped Classroom Approach

香港中文大學
The Chinese University of Hong Kong

香港中文大學醫學院
Faculty of Medicine
The Chinese University of Hong Kong

Micro-Modules and Team-Based Learning to support a flipped-classroom pedagogy:

Experience from the Master of Science Program in Speech-Language-Pathology

Kathy Y.S. LEE, Jason S.L. KAN & Michael C.F. TONG
Department of Otorhinolaryngology, Head & Neck Surgery
The Institute of Human Communicative Research

Background:

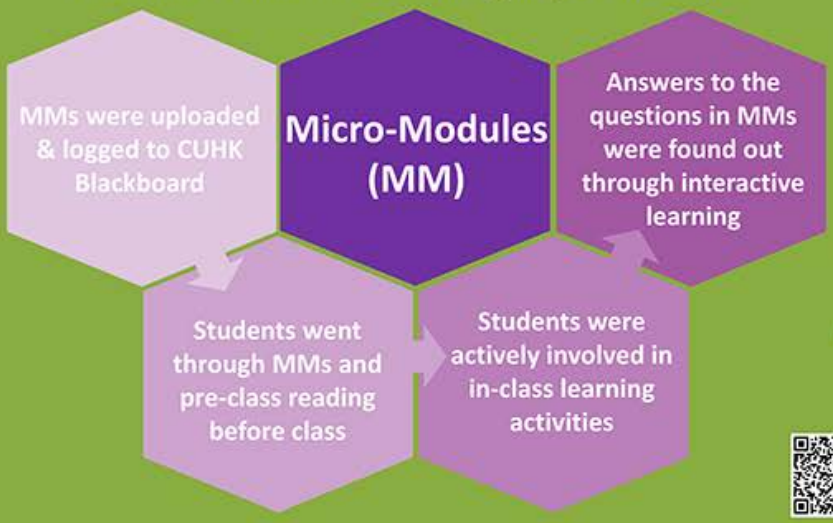
- MSc SLP is the first Speech Therapy programme in Hong Kong under Faculty of Medicine
- Advocate eLearning with the emphasis on clinical bridging
- Graduates are eligible to be Members of Register of Speech Therapists under the Department of Health's Accredited Registers Scheme for Healthcare Professions.

Project Aims:

1. prepare students to acquire the basic knowledge of related subjects
2. experience relevant clinical activities
3. provide direction of self-learning

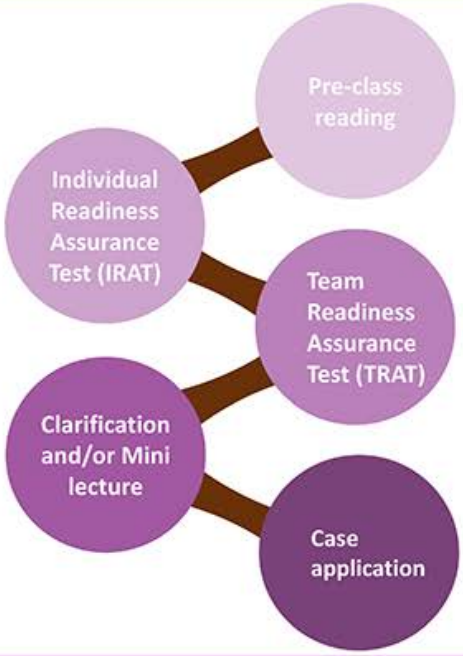
Ten tailor-made micro-modules, ranging from 2 to 6 minutes, were developed in the form of animation with narration covering subject areas of :

- a) Language Disorder,
- b) Speech Sound Disorder,
- c) Test Development,
- d) Fluency Disorder and
- e) Augmentative and Alternative Communication



Team-Based Learning (TBL)

An evidence based collaborative learning teaching strategy designed around units of instruction, known as "modules," that are taught in a three-step cycle: preparation, in-class readiness assurance testing, and application-focused exercise. A class typically includes one module.



Result:

CTE score relating to items of eLearning = 5.16 out of 6

" Useful as pre-engagement before class teaching ! "

" Helpful in understanding respective course content ! "

CUHK Micro-Module Courseware Development Grant 2017-18, Scheme 1: Basic Scheme, "Micro-Modules for Human Communication and Speech-language-hearing Sciences"

P13: Micro-Modules and Team-Based Learning to Support a Flipped-classroom Pedagogy: Experience from the Master of Science Program in Speech-Language-Pathology

Presented by
Prof. Kathy Yuet-sheung LEE, Department of Otorhinolaryngology, Head and Neck Surgery, Institute of Human Communicative
Prof. Michael Chi-fai TONG, Department of Otorhinolaryngology, Head and Neck Surgery & Institute of Human Communicative
Prof. Jason Ying Kuen CHAN, Department of Otorhinolaryngology, Head and Neck Surgery & Institute of Human Communicative

Abstract
Flipped classroom learning encourages students to take responsibility for their own learning and to be actively engaged in exploring materials. This project aims to make use of micro-modules and team-based learning to (1) prepare students to acquire the basic knowledge of related subjects; (2) to experience relevant clinical activities/materials and (3) to provide direction of self-learning.

Ten tailor-made micro-modules, ranging from 2 to 6 minutes, were developed in the form of animation with narration covering subject areas of a) language disorder, b) speech sound disorders, c) test development, d) fluency disorder and e) augmentative and alternative communication.

Produced micro-modules were uploaded and logged to the LMS of CUHK (Blackboard) under the courses. Students were asked to go through the micro-modules before class. During class time, students were actively involved in in-class learning activities on team basis. Answers to the questions raised in the micro-modules were eventually found out through the interactive learning processes.

The Course and Teaching Evaluation (CTE) score in the first term of 2018-19 reached an encouraging average rating of 5.16 out of 6 in relation to eLearning. Students commented that they found the eLearning useful as pre-engagement before class teaching and also helpful in understanding respective course content.

View **Poster**
View **Video**

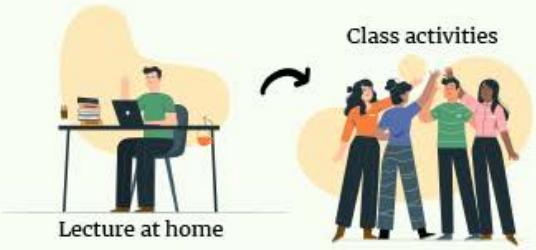
Online Venue
Room B

Areas of Interest
Flipped Classroom Approach

Flipped Classroom in Higher Education: Benefits, Challenges, and Teaching Strategies

Promoting flipped classroom in Higher Education

TRADITIONAL CLASS



FLIPPED CLASS

The UGC-funded project "Effective Implementation of the Flipped Classroom Approach in Hong Kong Higher Education for Enhanced Learning Outcomes" is led by CUHK to promote flipped classroom among the partner institutions. The following reports preliminary findings of a study supported by the project with the following research questions in mind:

- *What are the perceived benefits and challenges of flipped classroom from teachers' perspective?*
- *How do teachers respond to the challenges?*

What we have done

The research team conducted in-depth interviews with 28 teachers from diverse academic disciplines in five different universities in Hong Kong. These teachers were recruited to share their experiences in adopting flipped classroom in their practice.

Findings

BENEFITS

Flipped classroom was found to be associated with many benefits to the teachers.

· More flexible use of class time

"I actually can finish all the topics this year."

· Enhanced interaction

"I think the interaction between instructor and my students are increased. So in each class we have a lot of discussions. We have a lot of personal experience sharing, so I know better of my students than before."

CHALLENGES

However, many teachers found the flipped classroom approach challenging.

· Increased workload

"In the flipped classroom teaching, you need a lot of resources to prepare, especially like filming the wind turbine […] there are a lot of activities and a lot of effort in the preparation stage."

· Difficulties in motivating students

"When you ask 'Do you have questions?' […] they will keep silent… they will just look down and looked at the watch "Come on, let me go"."

STRATEGIES

Teachers interviewed devised different strategies to overcome these challenges.

· Provide guidance to students

"At the onset of the course, you need to tell your students what is flipped classroom. […] we did explain to our students why we adopt the flipped classroom and why is it beneficial, because you can use more time, using class time, to finish your assignment, and then you can have a tutor, or the teacher to help you to complete the assignment"

· Better planning

"I think the flipped teaching, definitely, is an online together with offline classroom teaching that complements well with each other. […] So, the big question is how does the two things actually merge together and support each other? […] This would maximize the effect of the flipped classroom teaching."

P14: Flipped Classroom in Higher Education: Benefits, Challenges, and Teaching Strategies

Presented by
Mr. Alan TSE, Centre for Learning Enhancement And Research, The Chinese University of Hong Kong
Prof. Paul LAM, Centre for Learning Enhancement And Research, The Chinese University of Hong Kong
Dr. Hilary NG, Centre for Learning Enhancement And Research, The Chinese University of Hong Kong
Ms. Carmen LAU, Centre for Learning Enhancement And Research, The Chinese University of Hong Kong

Abstract
Flipped classroom is increasingly being adopted in higher education institutions worldwide, including Hong Kong. This new teaching approach require students to gain first-exposure to learning material before class, thereby saving valuable class time for higher level cognitive activities. What are the perceived benefits and challenges of flipped classroom from teachers' perspective? How do teachers respond to the challenges?

To address these questions, our research team conducted in-depth interviews with 28 teachers from diverse academic disciplines in five different universities in Hong Kong. These teachers were recruited to share their experiences in adopting flipped classroom in their practice. Flipped classroom was found to be associated with many benefits to the teachers, such as more flexible use of class time, higher teaching quality, and opportunities for professional development. However, many teachers found it challenging to motivate students to engage in the pre-class learning material. Producing pre-class learning material and managing classroom activities entailed extra workload. Adapting to the flipped classroom approach also presented challenge to some teachers and students.

Teachers interviewed devised different strategies to overcome these challenges. For example, some provided extra incentive to motivate students to prepare for pre-class learning materials. Possible institution measures to help teachers and students to adapt to the flipped classroom approach will be discussed.

View **Poster**
View **Video**

Online Venue
Room B

Areas of Interest
Flipped Classroom Approach

LANGUAGE LEARNING

English Across the Curriculum: Use of *Capstone Ninja* to Support FYP Report Writing

Dr Jose LAI, Dr Christelle DAVIS, Ms Carmen Ka Man LI

Project Objectives

1. To enhance students' English communicative competence needed for completing their final year projects (FYPs) in different disciplines
2. To develop a mobile app with multi-modal English learning resources appropriate to discipline and project type for students to organize their capstone project ideas and to practise the English required at different stages of writing
3. To provide tips on the English skills they need to verbally present and defend their report

Project Team

The project team comprises:

- English language teachers
- Discipline academics: FYP supervisors
- Learning technologists and app developers

App Design

The app ...

- ✓ is specific to a focus discipline
- ✓ resembles social media
- ✓ includes notifications and alerts
- ✓ offers content for different stages and steps
- does not include lengthy/wordy content
- is not too formal
- is not used for extensive writing

CUHK Adopters

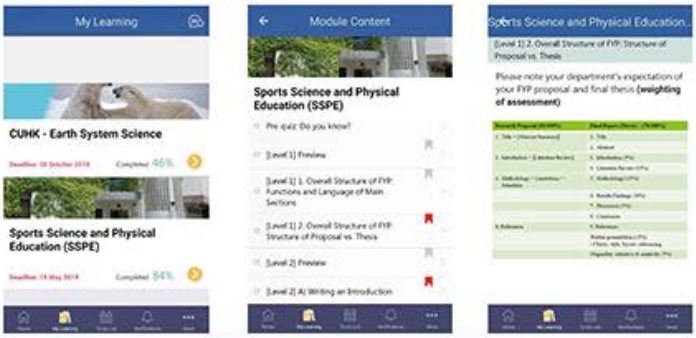
- Earth System Science Programme (ESSC)
- Sports Science and Physical Education (SSPE)

Focus: Final-year research project proposal & report writing

Other adopters include Humanities, Accounting & Finance, Engineering, Nursing, Ocean Science etc.

Learning Modules

- ✓ Customized content for specific disciplines
- ✓ Pre- and post-quizzes to measure learning outcomes
- ✓ Writing tips for different FYP sections
  - Macro-level: Overall structure of FYP
  - Micro-level: Language issues (e.g. grammar, word choice)



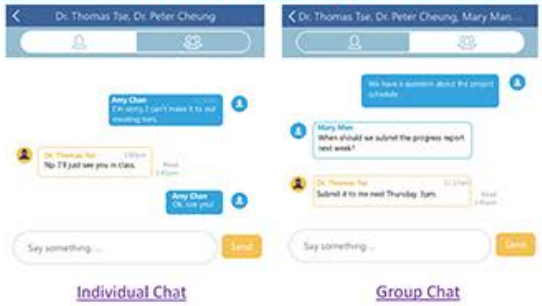
To-do List

- ✓ Departmental staff, supervisors and supervisees can add tasks to timeline with color-coded icons

Department Supervisor Supervisee

- ✓ Students receive push notifications for upcoming deadlines

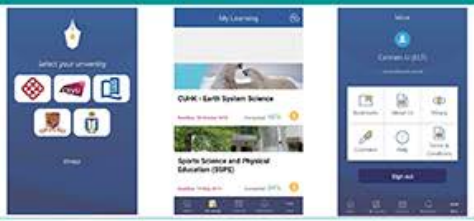
Individual & Group Chat



- ✓ Instant communication between supervisors and supervisees
- ✓ Message broadcast to all supervisees

More Features

- ***Log-in***: Single sign-on using university credentials
- ***Progress bar***: Overview of student's learning progress
- ***Bookmarks***: Save learning modules for quick access
- ***Enquiries and feedback collection***: Improve app features and content



CUHK Team

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Acknowledgement: This project is funded by the University Grants Committee (UGC).

P09: English Across the Curriculum: Use of Capstone Ninja to Support FYP Report Writing

Presented by
Dr. Jose LAI, English Language Teaching Unit, The Chinese University of Hong Kong
Dr. Christelle DAVIS, English Language Teaching Unit, The Chinese University of Hong Kong
Ms. Carmen LI, English Language Teaching Unit, The Chinese University of Hong Kong

Abstract
Completing a Capstone or Final-Year Project (FYP) in the form of a lengthy English text is a daunting and confusing task for many. It is probably one of students' biggest challenges at university. Subject supervisors of these projects unanimously show deep concerns for students' poor time management and unsatisfactory English competence in academic writing. Meanwhile, supervisees often express their wish to have better communication with, and hence, timely feedback from their supervisors. Therefore, a project team, which comprises English language academics from five local universities and app developers, has initiated an inter-institutional project funded by the University Grants Committee (UGC) for the 2016–2019 triennium with an aim to create a mobile app that addresses the aforementioned issues.

Informed by student writing samples and interviews with faculty academics, the mobile app, Capstone Ninja, has been developed as a three-in-one tool which features learning, management and communication. The learning modules, tailored to a specific discipline, aim to strengthen students' language abilities for completing their FYPs both at the macro and micro levels; the to-do list allows users to add different tasks and receive notifications when a deadline is approaching so that the project progress can be tracked/monitored closely; and the individual and group chat functions enable better supervisor-supervisee communication to take place throughout the process.

This poster will introduce the project objectives, the project team composition, and more importantly, the main functions and features of the app that address the three key concerns shared by supervisors and supervisees of Capstone/FYPs.

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View **Video**

Online Venue
Room B

Areas of Interest
Language Learning

The Chinese University of Hong Kong

Teaching and Learning Innovation Expo 2019

Project Title: eLearning Courseware for Elementary Japanese Language Learning

Funded by Courseware Development Grant 2018-19

(Teaching Development and Language Enhancement Grant in the 2016-19)

Project Code: 4170584

Principal Investigator: Dr. HO Chi Ming

(Associate Professor, Department of Japanese Studies)

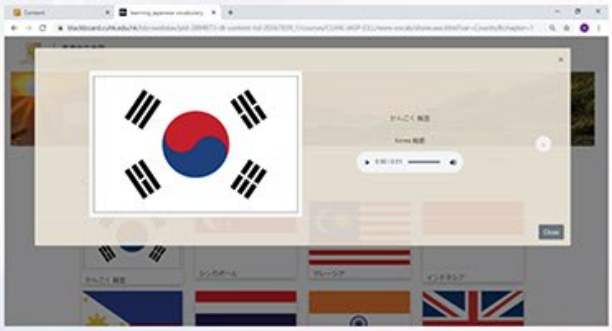
Project objectives

- Create an eLearning platform for the elementary Japanese language learning Level 1 and 2 in CUHK.
- Provide support to the current Japanese language textbooks (Nihongo Book 1 and 2, Chapter 1-24) with flexibility.

Structure of courseware

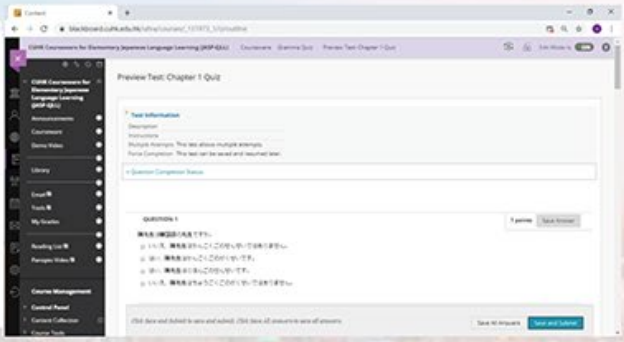
Learning Vocabulary

- Introduce new vocabularies which are related to the topics in textbooks but not included in the textbook.



Vocabulary Game
- **Check the vocabulary knowledge in 'Learning Vocabulary'**

Grammar Quiz
- **Check the grammar knowledge by using new vocabularies**



Scoring system is available for Vocabulary Game and Gramma Quiz by each chapter.

User name: cuhk-jasp-s1

Password: nihongo

Login link: https://blackboard.cuhk.edu.hk/webapps/login/?action=default_login

P10: eLearning Courseware for Elementary Japanese Language Learning in CUHK

Presented by
Prof. Chi Ming HO, Department of Japanese Studies, The Chinese University of Hong Kong

Abstract
This project is supported by The Chinese University of Hong Kong Courseware Development Grant (2018-19). This eLearning courseware aims to create an eLearning platform for the elementary Japanese language learning Level 1 and 2 in The Chinese University of Hong Kong (CUHK). The set of original Japanese language textbooks published by Department of Japanese Studies, CUHK is the main teaching materials for all CUHK elementary Japanese language courses. This set of textbooks was first published in 1992. Although it has been revised a few times in recent years but there is still no eLearning component included. Therefore students still cannot benefit from the rich resources of eLearning in this technology-driven era. In order to fill this gap, this eLearning courseware provides a series of learning materials based on the content of the textbooks. This eLearning courseware serves as a support to the current textbooks (Japanese Book 1 and 2, Chapter 1-24) and provides channels for further development of language skills and knowledge under relevant topics in each chapter. This eLearning courseware is focused on developing learning materials for students to access and supporting students' interactions by interactive activities including online exercise, quiz, introduction of new vocabularies. It is also focused on formative assessments through those exercises and quizzes. This eLearning courseware demonstrates originality in the enrichment of eLearning of Japanese language with the support of CUHK original teaching material which cannot be found elsewhere.

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Online Venue
Room B

Areas of Interest
Language Learning

Chinese across the Curriculum
（跨學科中文學習活動）

FORTHCOMING PAST EVENTS

• It aims at enhancing students' level of language awareness, developing students' level of language usage in different majors across CUHK.

• For 2017/18 - 2019/20, CAC provides 90 workshops, 22 colloquiums, 9 cultural talks on different topics. In total, 10570 students from 8 faculties and 33 departments enrolled in the activities.

• Through subject-specific activities, students would be able to 1) master the basic knowledge of Chinese language, 2) apply the knowledge and skills to their majors 3) and also to the real-world situations.

• Overall, more than 70% of students were satisfied with the activities, and more than 80% of students were satisfied with the teachers' performance.

"Literary CUHK" Essay Competition
（文學中大）

- It aims to promote literary creation in the campus and encourage students to express views they have with the scenery or community of CUHK.

- For 2016-2019: 983 essays were collected from "University Chinese I & II" and the Open class; 63 outstanding essays were awarded by different renowned judges. 4 seminars on creative writing were held as well.

- Winners included undergraduate students, postgraduate students and alumni from different faculties, showing that the power of literature is transcending and influential among faculties.

- The Facebook fanpage of Literary CUHK, established on 1 September 2016, received over 1100 likes and has published 142 posts until Mid-December 2019.

"Root-seeking Walk"
（尋根之旅）

• It aims at arousing students' interest in Yue dialects (especially Cantonese) in different regions.

• For 2018-2019: 3 exchange activities were held in 4 locations (Guangzhou, Zhongshan, Dapeng and Kaiping) in Greater Bay Area (大灣區), with 62 students participated.

• By attending lectures, visiting scenic spots and conducting hands-on fieldwork, students could learn more about the origin, development and differences of Yue dialects, and Lingnan culture as well.

• The fieldwork session enabled students to obtain basic research skills through interviews with informants speaking Yue dialects other than Cantonese. Students presented their own findings to mentors regarding the difference of pronunciation.

▲ Visiting Sun Yat Sen's Museum

▲ Learning Kaiping (開平碉)

LEARNING CHINESE OUTSIDE THE CLASSROOM

Principal Supervisor: Prof. TANG Sze Wing
Co-supervisors: Dr. CHEUNG Wing Mui,
Dr. TSUI Ha, Dr. LAI Pit Shun, Dr. CHENG Siu Pong

中文系 香港中文大學中國語言及文學系 Department of Chinese Language and Literature, CUHK

大學中文

"TOLEG" 3 years in 2 mintues! :

eLearning
（電子教學）

• It aims to broaden the coverage of the curriculum and strengthen the self-learning abilities of the students.

• For 2016-2019, several eLearning tools had been developed:

a) Language Map of CUHK 2.0 (中大文學地圖)
b) Micro-modules of Cantonese Romanization(粵拼微課程)
c) Putonghua Proficiency Mock Test (普通話水平模擬測試)
d) Self-assessment of Essentials of Chinese Language(語文基礎知識測試)
e) Self-assessment of Cantonese (粵語基礎知識測試)
f) "University Chinese" Facebook fanpage(大學中文專頁)
g) "University Chinese" Blackboard with well-planned interface

• (a) to (e) have become part of the grading for University Chinese from 2018-19.

• "University Chinese" Facebook Fanpage got 2242 likes and published over 40 articles in the theme of Chinese Language until June 2019.

Acknowledgement:

The project is supported by the Teaching Development and Language Enhancement Grant for 2016-19 Triennium, with generous assistance from different units in CUHK.

P11: Learning Chinese Outside the Classroom

Presented by
Prof. Sze Wing TANG, Department of Chinese Language and Literature, The Chinese University of Hong Kong
Dr. Siu Pong CHENG, Department of Chinese Language and Literature, The Chinese University of Hong Kong
Dr. Pit Shun LAI, Department of Chinese Language and Literature, The Chinese University of Hong Kong
Dr. Wing Mui CHEUNG, Department of Chinese Language and Literature, The Chinese University of Hong Kong
Dr. Ha TSUI, Department of Chinese Language and Literature, The Chinese University of Hong Kong

Abstract
"Learning Chinese Outside the Classroom" is one of the funded projects of TDLEG(2016-19), aiming to provide a more diverse Chinese-language learning path to students and helping them to expand their learning horizon according to their learning progress and needs. The project consists of four main activities:
1. "Chinese Across the Curriculum"(跨學科中文學習活動)
2. "Learning through Competition"(文學中大徵文比賽)
3. "eLearning Chinese"(電子學習)
4. "Root-seeking Walk"(粵語尋根)

In the aspect of teaching efficiency, a wide variety of learning activities and eLearning tools were held and developed to cater for students diversity; students can learn more about their own learning interests and needs with different topics offered outside the classroom.
Our team is glad to introduce the concept and implementation of 'Learning Chinese Outside the Classroom' to experts inside and outside the university at the EXPO, and detail how the above-mentioned components coordinated with the University Chinese courses. To facilitate the efficacy of learning and teaching, opinions on how to improve the implementation of the project are welcomed.

View **Poster**
View **Video**

Online Venue
Room B

Areas of Interest
Language Learning

"Hit two birds with one stone" Redesigning formative assessment for CLEP courses to enhance student learning and their generic skills

THE UNIVERSITY OF HONG KONG
Rebecca Yu Shan, LAM, PhD; Cecilia Ka Yuk, CHAN, PhD; Esther Wai Yin, CHAN, PhD

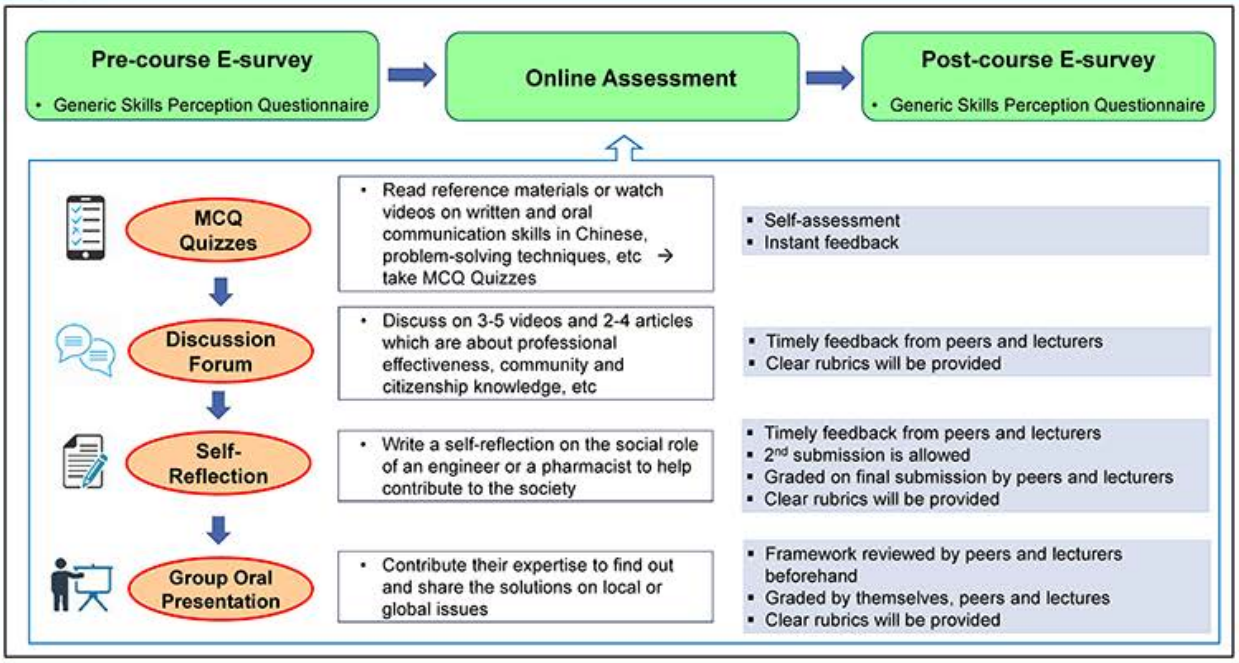
Introduction

The educational aims of The University of Hong Kong are to embrace different generic skills such as communication and collaboration, critical self-reflection, global citizenship, etc, however, the development of these skills is not often manifested in the heavily loaded curriculum. Chinese Language Enhancement Programme (CLEP) is a compulsory course for all university students, and thus, it will provide a "well-fit" opportunity for all students to become whole person. Our project aims to use number of online formative assessment to enhance students from two courses, Practical Chinese for Engineering Students (CENG9001) and Practical Chinese for Pharmacy Students (CEMD9005) on their learning of Chinese language in a more systematic way and simultaneously, embed generic skills into the CLEP courses via online formative assessment.

Objectives

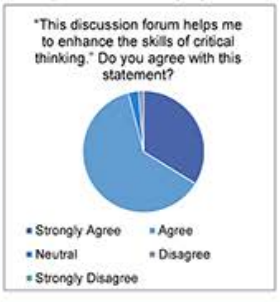
- To enhance student learning of Chinese language and their generic skills.
- To arouse students' awareness of the importance of generic skills.
- To provide prompts and effective formative feedback in order to enhance student learning.
- To motivate students towards achieving learning outcomes through self-assessment and peer-evaluation.
- To allow lecturers to form a more detailed understanding of student's abilities through formative assessment, which can be used to inform remediation, re-teaching, and instructional strategy.
- To promote online assessment in CLEP by creating sustainable assessment practices which can be transferred to other courses within our programme.

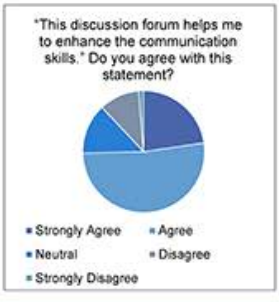
Methods



Pilot Test

- In the past academic year, two pilot discussion forums have been held and two online surveys have been created to collect students' opinion on discussion forums and e-learning. The results of the post-forum surveys are encouraging.





Conclusion

This project will be fully launched in the 1st semester 2020-2021. About 350 engineering students and 30 pharmacy students will participate in it. Hopefully, students' awareness towards the importance of generic skills and their competency would be raised and thereby better equipping them for their future career.

References

- Bennett, N., Dunne, E., & Carré, C. 2000. *Skills development in higher education and employment.* Buckingham, UK: The Society for Research into Higher Education and Open University Press.
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- Chan, Cecilia K. Y., & Emily T. Y. Fong. 2018. "Disciplinary differences and implications for the development of generic skills: a study of engineering and business students' perceptions of generic skills." *European Journal of Engineering Education* 43(5): 927-949.

Contact: Rebecca LAM (email: lamys@hku.hk; tel.: 39178499)

U01: "Hit Two Birds with One Stone" - Redesigning Formative Assessment for CLEP Courses to Enhance Student Learning and Their Generic Skills

Presented by
Dr. Rebecca Yu Shan LAM, School of Chinese, The University of Hong Kong

Abstract
The educational aims of The University of Hong Kong are to embrace different generic skills such as communication and collaboration, critical self-reflection, global citizenship, etc, however, the development of these skills is not often manifested in the heavily loaded curriculum. The Chinese Language and Enhancement Programme (CLEP) is a compulsory course for all university students, and thus, it will provide a "well-fit" opportunity for all students to become whole person. Our project aims to use number of online formative assessment to enhance students from two specific disciplines (Engineering and Pharmacy) on their learning of Chinese language in a more systematic way and simultaneously, embed generic skills into the CLEP courses via online formative assessment.

View **Poster**
View **Video**

Online Venue
Room B

Areas of Interest
Language Learning

LOCATION-BASED LEARNING

Location-based Learning of Business, Education and Geography using iBeacon Technology

Wong, F.K.K., Wan, W.Y., Lai, J., Lam, L.C., Chiu, C. K., Yip, H.H. and Kwok, Y.Y.

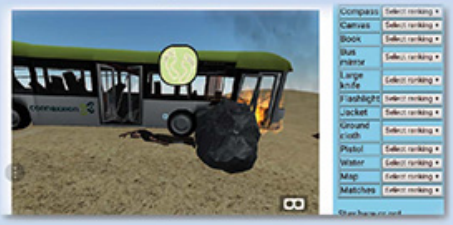
ATLAS allows the deployment of iBeacons for location-based services which are applicable in both indoors and outdoors learning.

It is compatible with various types of content including AR/VR materials. Teachers/ educators can use ATLAS to design with new pedagogy that links with a location within a classroom.

Three location-based learning activities using ATLAS has been/ will be developed in CUHK.

Department : Management

Course : Principles of Management



The VR scene let students simulate the decision-making process. Students have to opt for survival tools after they encountered an accident in desert.

Department : Geography & Resource Management

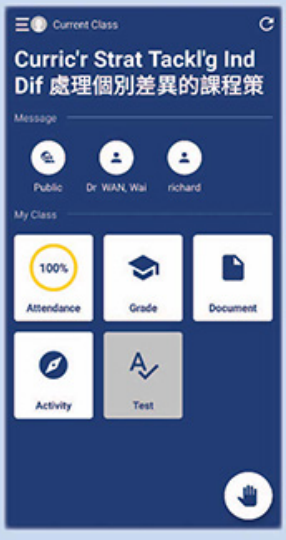
Activity : GRM Trail

GRM Trail uses outdoor iBeacon to conduct a virtual tour in CUHK campus.

A number of checkpoints are identified in the campus. Contents related to geographical interests are presented in form of videos, VR scenes and linked with the iBeacons.

Department : Curriculum and Instruction

Course : Principle and Implementation of Curriculum & Instructional Design



Students use mobile phones to connect to iBeacon for class activity.

The VR contents are developed to help students learn about some important concepts of child education.

P63: Location-based Learning of Business, Education and Geography Using iBeacon Technology

Presented by
Prof. Paul LAM, Centre for Learning Enhancement And Research, The Chinese University of Hong Kong
Dr. Kwan Kit WONG, Department of Geography and Resource Management, The Chinese University of Hong Kong
Dr. John LAI , Department of Management, The Chinese University of Hong Kong
Mr. Richard Chung Kin CHIU, Department of Geography and Resource Management, The Chinese University of Hong Kong
Mr. Peter Hiu Hong YIP , Department of Geography and Resource Management, The Chinese University of Hong Kong
Mr. Bobby Yin Yu KWOK , Department of Geography and Resource Management, The Chinese University of Hong Kong

Abstract
This study develops a platform called ATLAS that allows the deployment of iBeacons for location-based services which are applicable in both indoors and outdoors. ATLAS is compatible with various types of content including AR/VR materials. Teachers/ educators can use ATLAS to come up with new pedagogy that links with location within a classroom. Three location-based learning activities using ATLAS has been developed by the Department of Management, the Department of Curriculum and Instruction and the Department of Geography and Resource Management (GRM) in CUHK. In the class of Principles and Implementation of Curriculum and Instructional Design (EDUC2120B). Two VR scenarios about how to address learner diversity through multiple intelligences were created, in which students used their mobile phones to connect to the iBeacon. During the process, students moved around the classroom and browsed the VR contents to complete learning tasks during the class. In class of Management (MGNT1020J and MGNT1020K), an interesting VR scenario was developed to allow students to opt for survival tools after they encountered an accident in desert to simulate the decision making process. The teacher is going to use this material in his course in the next semester. GRM department has developed a virtual tour in CUHK campus coined as "GRM Trail" using outdoor iBeacons. A number of checkpoints were identified in the campus and contents related to geographical interests such as vegetation, urban and city development, etc. were translated into videos, and VR scenes and attached to the iBeacons. Interested parties not limited to students from CU can get access to the materials and learn on site.

View **Poster**
View **Video**

Online Venue
Room C

Areas of Interest
Location-based Learning

LOCATION-BASED LEARNING USING UREPLYGO IN A FIELD STUDY IN THAILAND

WONG F.K.K. AND PATNUKAO, A.

FIELD STUDY

IN JUNE 2019, THE DEPARTMENT OF GEOGRAPHY AND RESOURCE MANAGEMENT (GRM) ORGANIZED A 12-DAY FIELD STUDY IN THAILAND. 30 CUHK STUDENTS FROM GRM AND THE URBAN STUDIES PROGRAM JOINED AND EXPLORED THE GEOGRAPHICAL INTERESTS TOGETHER IN BANGKOK AND CHIANG MAI. ON ONE DAY, STUDENTS EXPLORED DIFFERENT ETHNIC GROUPS SITUATED IN VARIOUS PARTS OF BANGKOK. WITH THE AID OF THE UREPLYGO PLATFORM, VARIOUS ACTIVITIES WERE SET AND LINKED TO THESE CHECK-POINTS. STUDENTS WERE DIVIDED INTO FIVE GROUPS AND EXPLORED FIVE DIFFERENT COMMUNITIES.

SURVEY RESULTS

THE OVERALL LEARNING EXPERIENCE OF UREPLYGO

- ABOUT 60% OF RESPONDENTS BELIEVED IT WAS AN EXCELLENT/ GOOD EXPERIENCE
- ABOUT 87% OF RESPONDENTS RECOMMENDED THE ACTIVITY TO BE CONTINUED
- THE TOOL WAS EASY TO USE
- THE LEARNING PROCESS WAS INTERESTING, FACILITATED UNDERSTANDING OF THE COMMUNITIES AND THE OBJECTIVES OF CONDUCTING FIELD WORKS
- TECHNICAL PROBLEMS SUCH AS INACCURATE GPS LOCATION AND UNSTABLE NETWORK
- IMPROVEMENTS CAN BE MADE FOR THE INTERFACE

P64: Location-based Learning Using uReplyGo in a Field Study in Thailand

Presented by
Dr. Kwan Kit WONG, Department of Geography and Resource Management, The Chinese University of Hong Kong
Dr. Areerut PATNUKAO , Department of Geography, Chulalongkorn University

Abstract
In June 2019, the department of Geography and Resource Management (GRM) has organized a 12-day field study in Thailand. 30 CUHK students from GRM and the Urban Studies Program joined and explored the geographical interests together in Bangkok and Chiang Mai. On one day, students explored different ethnic groups situated in various parts of Bangkok. Prior to the study trip, Prof. Areerut Patnukao from the Department of Geography in Chulalongkorn University and myself identified some interesting locations to assist the exploration of communities by self-exploration. With the aid of the uReplyGo platform, various activities were set and linked to these checkpoints. Students were divided into five groups and explored five different communities including Talad Noi, Kudi Chin, Yaowarat, Phahurat and Banglamphu. Each group shared their observation and findings afterwards. In the end of the field study, a survey was conducted to understand the effectiveness of using uReplyGo as a teaching and learning tool in field studies course from student perspective. Regarding the overall learning experience with uReplyGo, about 60% of respondents believed it was an excellent/ good experience. About 87% of respondents recommended the activity to be continued in the upcoming field studies. In the open-end questions, some students found the tool was easy to use but improvements can be made for the interface. And the learning process was interesting as they can learn more about the surrounding places and can understand more about the objectives of the fieldwork. However, technical problems such as inaccurate GPS location and unstable network connection were mentioned.

View **Poster**
View **Video**

Online Venue
Room C

Areas of Interest
Location-based Learning

Presented by:
Dr. Kent Lee (Department of Sociology)
Mr. Kevin Wong, Mr. Joe Tsang and Mr. Andy Wan
(Centre for Learning Enhancement And Research)

Exploring the Potential of Mobile-assisted Teaching and Learning Platform uReplyGo in Facilitating Experiential Learning and Peer Teaching in a Sociology Course

ABSTRACT

The Hong Kong Story is not easy to tell – said sociologist Lui Tai Lok. It's even more challenging to tell it to a mixed group of local and overseas students given their diverse past experience about Hong Kong. Utilizing the uReply Go as mobile assisted learning and teaching platform, the current project explores the potential benefit of incorporating experiential learning and peer learning in key assessment items of a sociology course on Hong Kong society. By assuming the role of a teacher and designs a fieldtrip telling the social-history of selected districts, students are structurally exposed to the four stages of experiential learning: reflective observation, abstract conceptualization, active experimentation, and concrete experience as they research on their topic and testing their fieldtrip with the mobile platform outside the classroom. As the assignment fieldtrip is designed as self-guided, element of peer teaching was involved. Students need to proactively consider and decide the pedagogical need of their audience. Observations are that students become better motivated and 'learn twice' in completing their assignment.

Stage 1: Concrete experience

- Doing something! Teacher's demonstration

Stage 2: Reflective observation

- In group, students reflect on location-based 'information', 'tasks', and 'questions' experienced in the previous fieldtrips.
- Students select a district for case study and conduct preliminary literature research on the community concerned.
- (Optional) Carry out field visit to collect further information (interviewing for story from locals, making observations to design onsite tasks).

Stage 3: Abstract conceptualization

- Integrating literatures (online, journals, books).

Draft and submit a social narration of the district, with reference to different aspects of HK: urbanization / industrialization / housing policy / rural development / ethnic minorities / globalization / conservation

- Feedback from and consultation with teacher.

Stage 4: Active experimentation

- Plan and design field trip route, tasks, and questions to be asked at the location.
- (Optional) Carry out another field visit to test field trip design. Check GPS signals etc.
- Role play as 'teacher' – learn to tell a social-historical story about Hong Kong through the field trip process – with fellow classmates as audience in mind.

UREPLY GO LEARNING CYCLE

SOME SAMPLE FROM STUDENTS' WORK

Memories of the City south

Shatin cycling trip

Redevelopment in Sham Shui Po

Colonial state and rural politics

看英殖香港的軍事與歷史—赤柱

P65: The Potential of Mobile Assisted Teaching and Learning Platform uReplyGo in Facilitating Experiential Learning and Peer Teaching during The COVID-19 Pandemic

Presented by
Dr. Kent King-wa LEE, Department of Sociology, The Chinese University of Hong Kong
Mr. Andy Hok Lam WAN, Centre for Learning Enhancement And Research, The Chinese University of Hong Kong
Mr. Joe Cheok Ngai TSANG, Centre for Learning Enhancement And Research, The Chinese University of Hong Kong
Mr. Kevin Chun Kit WONG, Centre for Learning Enhancement And Research, The Chinese University of Hong Kong

Abstract
The Hong Kong Story is not easy to tell - said sociologist Lui Tai Lok. It's even more challenging to tell it to a mixed group of local and overseas students given their diverse past experience about Hong Kong. The current project explores the potential benefit of incorporating the uReply Go as mobile assisted learning and teaching platform, experiential learning (Kolb, 1984) and peer learning (Whitman and Fife 1988) in assessments of a sociology course on Hong Kong society. Assuming the role of a teacher, students research on the social-history of a selected Hong Kong district and design a fieldtrip to tell a story of the concerned community. They are structurally exposed to the four stages of experiential learning: reflective observation, abstract conceptualization, active experimentation, and concrete experience as they formulate a story framework, dig deep into the community literatures with optional online/onsite interviews, and finally design and test their fieldtrip with the mobile platform outside the classroom. Peer teaching is involved since the self-guided fieldtrip is designed to be experienced by other classmates thus their pedagogical need has to be considered. Preliminary observations suggest students become better motivated and engaged in spiral learning. Mobile assisted learning and teaching platform is particularly relevant during the pandemic as students can complete their field assignment online (e.g. Google map) without physically present at the fieldsite or classroom. According to a World Economic Forum policy paper, over 1.2 billion students are out of the classroom as of April. It is suggested future assessment can explore the potential of incorporating Google Earth.

View **Poster**
View **Video**

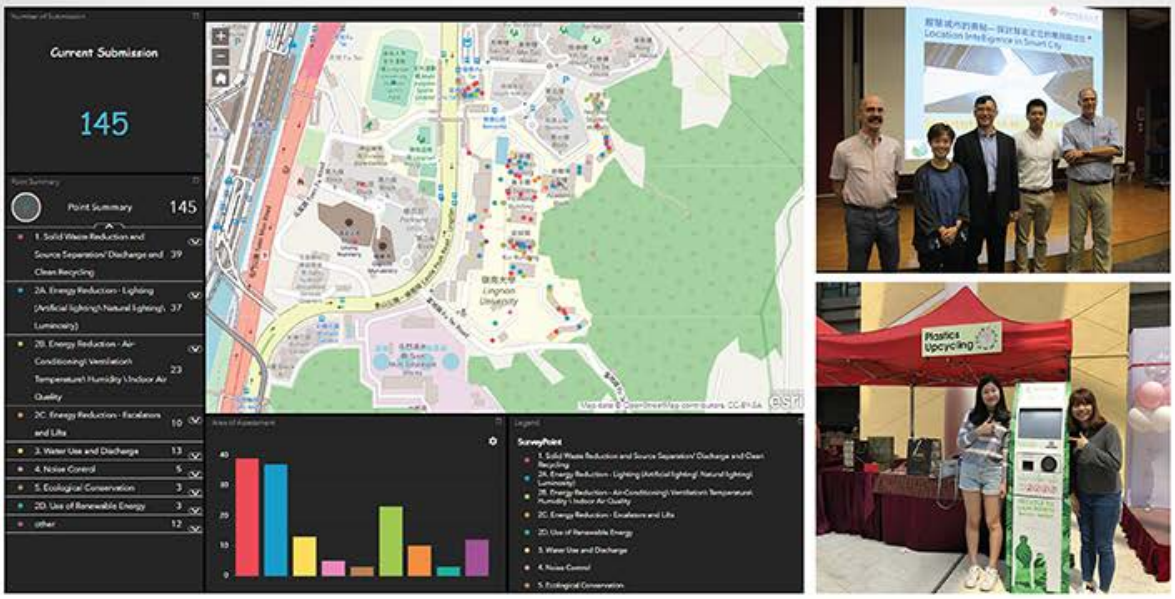
Online Venue
Room C

Areas of Interest
Location-based Learning

Lingnan University 嶺南大學 香港 Hong Kong

The Application of Web Geographic Information System (Web GIS)

in Students' Smart Learning on a Smart Green Campus



Abstract:

The crisis of climate change and rapid urbanization have presented serious challenges to the future. Today, smart and sustainable city strategies aim to achieve a balance between conservation and urban development with the aid of smart technology. Therefore, it is vital for our university to outfit our students with contemporary knowledge to cope with the emerging trend towards developing a smart and sustainable future. This project aims at proposing and validating a new smart learning approach (Industrial-University Collaborative, I_2U) pedagogy that initiates smart technologies (Web GIS) to develop sustainable concepts and experiment at a smaller campus level, named "Smart Green Campus".

The proposed I_2U pedagogy will employ two cluster courses as a test bed to explore the pedagogical feasibility and effectiveness of "Smart Green Campus" through smart learning. The goals of the pedagogy are 1) to increase student's environmental awareness and to realize best practices by changing the attitude of students towards sustainability; 2) to enable students to experience the use of industry leading Web GIS platform and gain competitive edge in the job market. Moreover, the findings will be transferred to University's relevant departments to assist in University campus planning and future Smart Campus development in long run.

■ Principal Project Supervisor

Professor WONG Pui Yun Paulina
Assistant Professor
Science Unit

■ Co-Supervisors

Dr Rosiah HO,
Knowledge Transfer and Industrial Liaison Coordinator & Special Project Coordinator,
LUSCUT Joint Research Centre for Greater Bay Area - Social Policy and Governance

U11: The Application of Web Geographic Information System (Web GIS) in Students' Smart Learning on a Smart Green Campus

Presented by
Prof. Paulina Pui Yun WONG, Science Unit, Lingnan University
Dr. Rosiah HO, LUSCUT Joint Research Centre for Greater Bay Area - Social Policy and Governance, Lingnan University and

Abstract
The crisis of climate change and rapid urbanization have presented serious challenges to the future. Today, smart and sustainable city strategies aim to achieve a balance between conservation and urban development with the aid of smart technology. Therefore, it is vital for our university to outfit our students with contemporary knowledge to cope with the emerging trend towards developing a smart and sustainable future. This project aims at proposing and validating a new smart learning approach (Industrial-University Collaborative, I2U) pedagogy that initiates smart technologies (Web GIS) to develop sustainable concepts and experiment at a smaller campus level, named "Smart Green Campus".

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View **Poster**
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Online Venue
Room C

Areas of Interest
Location-based Learning

MMCD AND MOOC

Courseware Demonstrating the Dietary Sugar and Oil to the Development of Diabetes Mellitus

Dr. Po Yeung[1]; Dr. Florence Tang[1]; Dr. Olivia Ngan[2] & Mr. Taylor Tang[3]
[1]School of Biomedical Sciences CUHK; [2]Faculty of Medicine CUHK; [3]Information and Technology Services Centre CUHK

香港中文大學 The Chinese University of Hong Kong

香港中文大學醫學院 Faculty of Medicine The Chinese University of Hong Kong

香港中文大學生物醫學學院 CUSBS

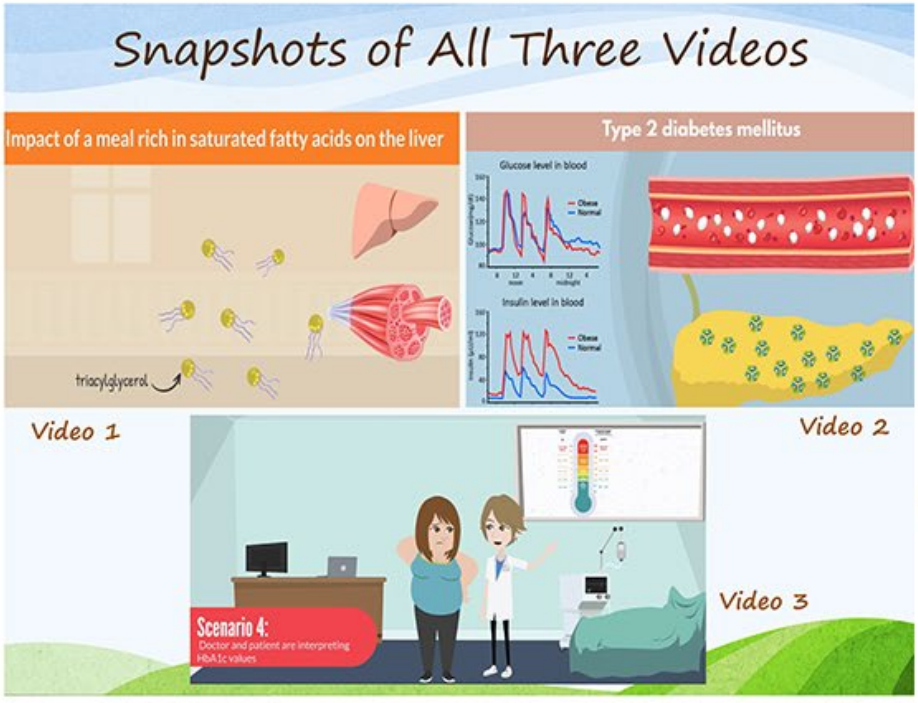
itsc Information Technology Services Centre

Background:
Dietary sugar and oil are those important nutrients to all of us, especially to those patients who are pre-diabetes or chronic diabetes. It is important to provide clear concepts about the relationship between diabetes and dietary nutrients intake to the medical/non-medical students.

Methodology:
Our project created total 3 videos describing the relationship between diabetes and dietary nutrients intake and how we can monitor the diabetic index in patients. The orders of each video were aligned with the lecture contents of corresponding course (MEDU2600 – Molecular Medicine and Genetics) and the students were encouraged to review the videos before and after face-to-face lectures. The videos were accessible all the time at CUHK blackboard and feedbacks from students via e-survey would be accumulated for completed data analysis.

Findings:
The main areas of e-survey were reflecting the (i) usefulness, (ii) impact and (iii) effectiveness of all 3 videos from the year 2 medical students during the study of dietary nutrients intake and development of diabetes mellitus at MEDU2600 – Molecular Medicine and Genetics. Students appreciated this user-friendly courseware explaining the complicated concepts of diabetes mellitus and dietary nutrients intake which are very important and correlated to their preclinical studies in the medical curriculum.

Snapshots of All Three Videos



They are informative and easy to use!

They can keep my attention and interest!

I would recommend these videos to other classmates!

I would read further of certain topics appeared in those micro-modules.

Acknowledgement:
This project was approved and supported by the Micro-module Courseware Development Grant CUHK 2018-19.

P01: Courseware Demonstrating the Dietary Sugar and Oil to the Development of Diabetes Mellitus

Presented by
Dr. Hang Mee YEUNG, School of Biomedical Sciences, The Chinese University of Hong Kong
Dr. Florence M.K. TANG, School of Biomedical Sciences, The Chinese University of Hong Kong
Mr. Taylor Lik Hang TANG, Information Technology Services Centre, The Chinese University of Hong Kong
Dr. Olivia Miu Yung NGAN, CUHK Centre of Bioethics, The Chinese University of Hong Kong

Abstract
Dietary sugar and oil are those important nutrients to all of us, especially to those patients who are pre-diabetes or chronic diabetes. It is important to provide clear concepts about the relationship between diabetes and dietary nutrients intake to the medical/non-medical students. While studying about those areas, students may feel frustrated as the mechanisms are not easy to understand.

Our project created total 3 videos describing the relationship between diabetes and dietary nutrients intake and how we can monitor the diabetic index in patients. In each video, the contents were covering the basic knowledge and necessary information to equip year 2 medical students with their preclinical studies.

The orders of each video were aligned with the lecture contents of corresponding course (MEDU2600 – Molecular Medicine and Genetics) and the students were encouraged to review the videos before and after face-to-face lectures.

The videos were accessible all the time at CUHK blackboard and feedbacks from students via e-survey would be accumulated for completed data analysis. The main areas of e-survey were reflecting the (i) usefulness, (ii) impact and (iii) effectiveness of all 3 videos from the year 2 medical students during the study of dietary nutrients intake and development of diabetes mellitus at MEDU2600 – Molecular Medicine and Genetics.

We expected that the data collected for analysis would indicate the strengths and weaknesses of this project so we could improve our future e-learning projects based on the student's recommendations.

View **Poster**
View **Video**

Online Venue
Room A

Areas of Interest
MMCD and MOOC I

Self-learning Toolkit for Undergraduate Students to Facilitate Their Understanding of the Latest Scientific Discoveries

RGC-AoE Centre for Organelle Biogenesis and Function, Centre for Cell and Developmental Biology, School of Life Sciences, The Chinese University of Hong Kong

Ms. Jenny LAI, Dr. Vivian Chan & Prof. Liwen JIANG

3 Decebmer 2019

Summary

This project aims to promote and illustrate 1.) selected scientific publications derived from our research projects and 2.) advanced experimental techniques related to CMB laboratory teaching. During the 3 years project period, we have developed a self-learning toolkit which comprise of 26 reseach videos to enhance students' understanding of the current research discoveries.

Prof. Jiang and first authors of protein trafficking-related publications having discussion on experimental findings

Online Learning Platforms

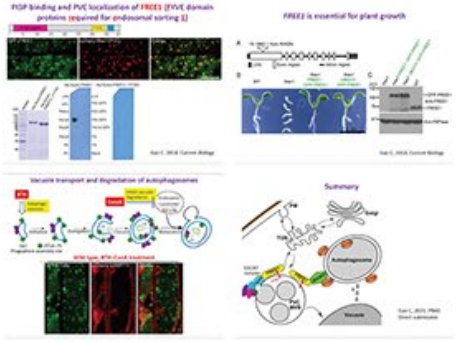
The publication videos and the related publications have been uploaded to the KEEP online platform for students taking the course *CMBI4001* to view before lectures. The experimental videos were uploaded to the Panopto online platform for students taking *CMBI3010* and *CMBI3020* laboratory courses. The videos were also uploaded to a public-accessible website to share the eLearning resource to other students in CUHK or from other institutions who are interested in the topics.

Interface of the KEEP online platform and public-accessible website

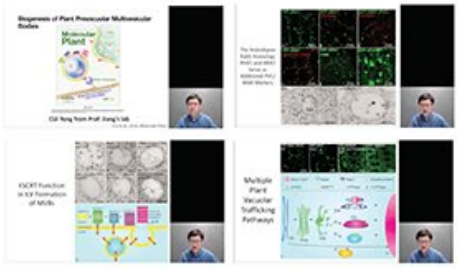
Self-learning Videos

In this project, 18 Publication Videos and 8 Experimental Videos have already been generated. They covered a variety of research findings and experimental techniques. Exampes are included as below:

A. FREE1: a magic plant protein (Publication Video)



B. Activation of the Rab7 GTPase by the MON1-CCZ1 Complex is Essential for PVC-to-Vacuole Trafficking and Plant Growth in Arabidopsis (Publication Video)



C. Introduction to Animal Cell Culture Techniques (Experimental Video)

The project is supported by Teaching Development and Language Enhancement Grant for 2016-19 Triennium

P02: Self-learning Toolkit for Undergraduate Students to Facilitate their Understanding of the Latest Scientific Discoveries

Presented by
Ms. Jenny LAI, School of Life Sciences, The Chinese University of Hong Kong
Prof. Liwen JIANG, School of Life Sciences, The Chinese University of Hong Kong

Abstract
Our project has produced 26 research videos during 2017-19 which introduce and illustrate 1.) selected scientific publications derived from RGC-funded CUHK research and 2.) experimental techniques that are related to the Cell and Molecular Biology (CMB) laboratory teaching.

In this project, micro-modules comprising the research videos were established on the KEEP platform as a self-learning toolkit of a variety of courses for undergraduate students to facilitate their understanding of the latest scientific discoveries. We developed Publication Videos from our recent research findings published in prestigious international journals that are related to CMB. The online videos explain the details of the background information and research data of the publications. Moreover, we generated Experimental Videos that display and illustrate the sample preparation and proper procedures of various advanced CMB experiments. Students can learn by themselves via watching the videos and have basic understandings of the related publications/experiments before the lectures/ laboratory sessions. As a result, they can have more intensive and deep discussion about the related topics during valuable class period. The micro-modules-based learning mode also allows students to have the most up-to-date knowledge on the latest research findings and technology development in this field.

View **Poster**
View **Video**

Online Venue
Room A

Areas of Interest
MMCD and MOOC I

Micro-Modules Open up **the World of Sign Language** and **Deaf Community** to Students

Micro-Modules for Sign languages and Deaf Communities

INTRO

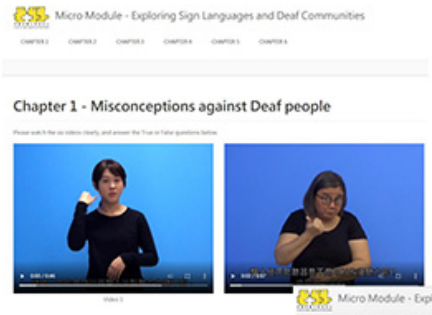
- Aim: enhancing undergraduate students' knowledge related to sign languages and Deaf communities
- Originally designed for course: UGED 2923 *Exploring Sign Languages and Deaf Communities*
- Also beneficial for: students taking Hong Kong Sign Language courses
- Deaf signers are a linguistic minority
- Most university students have never met a Deaf person before or do not have much experience interacting with Deaf
- Most of them are not aware that language issues **may affect different aspects of life** in a community
- Because of this: many students have difficulty understanding the lecture content

RESOLUTION

- Specifically designed **6** micro-modules

6 MICRO-MODULES

- Common misconceptions against Deaf people
- Relation between gestures and natural sign languages
- Raising a Deaf child
- Sign bilingualism and inclusive education
- History of Deaf education
- Deaf culture



VIDEOS

- Deaf people as video content consultant and signing model
- With subtitles

QUIZ

- Help understand the videos better

Sze Yim Binh Felix

Micro-Module Courseware Development

香港中文大學
The Chinese University of Hong Kong

Take a picture to check the website for the Micro Modules

P03: Micro-Modules for Sign Languages and Deaf Communities

Presented by
Prof. Felix Yim Binh SZE, Department of Linguistics and Modern Languages, The Chinese University of Hong Kong

Abstract
This project aims at enhancing undergraduate students' knowledge related to sign languages and Deaf communities through building up self-learning online modules for the university general education course "UGED 2923 Exploring Sign Languages and Deaf Communities". Deaf signers are a linguistic minority, and most university students taking this course have never met a Deaf person themselves before or do not have much experience interacting with Deaf people who communicate through the visual-gestural linguistic channel. In addition, the vast majority of students taking this course do not come from the Department of Linguistics and Modern Languages. Most of them are not aware that language issues may affect different aspects of life in a community. From our previous teaching experience, a considerable portion of the students have difficulty understanding the lecture content due to a lack of background knowledge. To maximize their learning, 6 micro-modules are designed for Flipped Classroom Teaching. Through studying the videos of the micro-modules before class, students could acquire essential background knowledge of the related content, thus maximizing their in-class learning. The 6 micro-modules cover the following aspects: common misconceptions against Deaf people, relation between hearing people's gestures and natural sign languages, issues involved in raising a Deaf child, sign bilingualism and inclusive education, history of Deaf education, and Deaf culture. For each of the six micro-modules, we produced one or several short signing video followed by a short online quiz. Deaf people acted as the video content consultant and signing model.

View **Poster**
View **Video**

Online Venue
Room A

Areas of Interest
MMCD and MOOC I

INTRODUCTION

This project aims at providing students with visual learning resources that enhance their understanding of the linguistic properties of sign languages. Unlike spoken languages, sign languages are visual-gestural in nature, with space and facial expressions playing an essential role in the grammatical system. Students with minimal prior knowledge of sign language often face difficulties in learning how to compare sign and spoken language mechanisms, and how to analyze sign language data from a linguistic perspective.

TANG, Wai Lan Gladys
Centre for Sign Linguistics and Deaf Studies
Department of Linguistics and Modern Languages
The Chinese University of Hong Kong
E-mail: gtang@cuhk.edu.hk

MICRO-MODULE COURSEWARE DEVELOPMENT FOR LING 2303 SIGN LANGUAGE STUDIES

1 TEACHING STRATEGIES

FOUR MICRO-MODULES PRODUCED

- Each micro-module includes a video (~8 minutes).
- Placed on the platform of Blackboard together with an online quiz.
- Discussions about the video contents in the class.

2 MODULE 1

UNDERSTANDING HEARING LOSS

- This module covers the hearing mechanism, types of hearing loss and how they affect the linguistic needs of a deaf person.
- Graphics and animations are produced.

3 MODULE 2

MODES OF COMMUNICATION

- This module compares and contrasts different modes of communication with video examples of:
- Natural sign language, Manually coded spoken language, Fingerspelling, Cue speech, Tactile signing, etc.

4 MODULE 3

SIGN LANGUAGE GRAMMATICAL SYSTEM

- This module provides examples to illustrate grammatical properties of sign language at different linguistic levels.

5 MODULE 4

HOW TO PREPARE SIGN LANGUAGE DATA AND USE SIGN LINGUISTICS RESEARCH TOOL

- This module demonstrates the techniques necessary for capturing sign language data with camcorders, digitizing sign language videos, and annotating sign language data.
- Annotation of sign language data uses ELAN, a research tool widely used for analyzing video data.

6 EVALUATION

A QUESTIONNAIRE DESIGNED TO ELICIT OPINIONS FOR CONTENT CLARITY AND PACE OF DELIVERY

- The questionnaire will require the students to rate their user experience and the effectiveness of using the micro-modules.
- Feedback showed that the micro-modules have met the expectations of the students, with or without knowledge of sign language.

7 DIFFUSION

THE MICROMODULES WILL BE USED AT CONFERENCES AND WORKSHOPS, AS WELL AS CURRICULAR PLANNING

- If translated into Chinese with a voice track in Cantonese and Putonghua, the micromodules can be adopted for training programmes in China or Taiwan.

IMPACT

The micromodules are excellent resources for UGE2923 Exploring Sign Language and Deaf Communities, and the top-up BA degree programme in Bimodal Bilingual Studies.

Micromodule 1 'Understanding hearing loss' is ideal for parents or teachers education as well as training programmes for professionals.

Micromodule 4 'How to process SL data using a SL research tool' will be used for postgraduate level training, for students interested in learning how sign language can be systematically transcribed and analysed for academic and professional purposes.

Micro-Module Courseware Development

Department of Linguistics and Modern Languages

P04: Micro-Modules Courseware Development for LING 2303 Sign Languages Studies

Presented by
Prof. Gladys Wai-lan TANG , Department of Linguistics and Modern Languages, The Chinese University of Hong Kong
Mr. Ka Yiu CHENG
Mr. Aaron WONG
Ms. Brenda YU
Mr. Pippen WONG
Ms. Connie LO

Abstract
This project aims at providing students with visual learning resources that enhance their understanding of the linguistic properties of sign languages. Unlike spoken languages, sign languages are visual-gestural in nature, with space and facial expressions playing an essential role in the grammatical system. Students with minimal prior knowledge of sign language often face difficulties in learning how to compare sign and spoken language mechanisms, and how to analyze sign language data from a linguistic perspective.
Visual learning resources demonstrating sign linguistic concepts and the skills essential for analyzing sign language data are produced. Areas covered include (a) understanding hearing loss; (b) different modes of communication for Deaf people; (c) sign language grammatical system; and (d) how to prepare and analyze sign language data. These 4 micro-modules are designed to facilitate Flipped Classroom Teaching. The videos from these micro-modules helped consolidate students' knowledge of these four areas, and enhanced their in-class learning.

Each micro-module consists of a short video and uploaded on Blackboard followed by a short online quiz to measure the students' understanding of the video content.
The micro-modules can be used by other Linguistic courses as supplementary information as well. They offer useful information and knowledge related to sign languages studies, and are useful for other Linguistic students to learn about the linguistic system of sign languages. These micro-modules are also useful for sign interpretation students who want to learn more about the differences between sign language and spoken language.

View **Poster**
View **Video**

Online Venue
Room A

Areas of Interest
MMCD and MOOC I

Cantonese Learning in Chinese Language Proficiency Courses

CANTONESE (APP)

Target: Non-local students (CHLT1102, CHLT1202 & CHLT1104)

Content: 5 modules with recordings, 5 videos and an interactive game

Teaching Language: English

Features:

(I) Visualisation of tones: Tones are colour-coded, represented by movements of animals, and drawn on a music score sheet.

(II) Interactive learning with multimedia materials: Recording function, a tone-shape-drawing game and video clips of daily conversations are provided to improve tone production and perception.

Download now!

Let's See how it works!

Expected outcomes:

(I) Improve Cantonese pronunciation in terms of tones

(II) Become aware that different tones suggest different meanings

粵語基礎知識測試 ONLINE SELF-ASSESSMENT TEST FOR CANTONESE FUNDAMENTAL KNOWLEDGE

Target: Local students (CHLT1100 & CHLT1200)

Content: 20 out of 200 questions in the database, related to the history, pronunciation, vocabulary, and grammar of Cantonese.

Teaching Language: Chinese

Features:

(I) Self-assessment: A score report is generated for students to review their performance.

(II) Instant response: Each answer is supplied with a detailed explanation.

Expected outcomes:

(I) Have a basic and yet comprehensive understanding on Cantonese

(II) Be aware of common misunderstandings on Cantonese

粵拼微課程 MICRO-MODULES FOR LEARNING CANTONESE ROMANIZATION JYUTPING

Target: Local students (CHLT1100 & CHLT1200)

Content: 8 modules with over 20 videos and interactive games

Teaching Language: Chinese

Features:

(I) From parts to whole: Each lesson consists of several consonants, vowels and tones. Students can translate a whole word to Jyutping immediately

(II) Well-designed learning sequence: Lessons are ordered from the easy to the difficult.

(III) Daily examples: Use familiar places and popular words as examples to improve the learning motivation.

Let's have a quick tutorial!

Expected outcomes:

(I) Pronounce Cantonese words accurately

(II) Input Chinese by using Jyutping

粵語微課程 MICRO-MODULES OF CANTONESE

Target: Non-local students (CHLT1102, CHLT1202 & CHLT1104)

Content: 5 modules with 10 videos and a multi-media word list

Teaching Language: English

Features:

(I) Conversations in the CUHK campus: Teach words and phrases frequently used in the CUHK and Hong Kong.

(II) Grammar knowledge: Question formation, utterance particles etc.

(III) Cultural input: Hong Kong food culture, code-mixing of English and Cantonese etc.

Scan me for more!

Expected outcomes:

(I) Able to speak Cantonese words and phrases for daily use

(II) Have a basic understanding on Cantonese grammar and Hong Kong culture

中文系 香港中文大學中國語言及文學系 Department of Chinese Language and Literature, CUHK

大學中文

Acknowledgement: This project is supported by the Teaching Development and Language Enhancement Grant for 2016-19 Triennium and Courseware Development Grant (2017-18) & (2018-19), with generous assistance from ITSC and ELITE in CUHK.

P05: Cantonese Learning in Chinese Language Proficiency Courses

Presented by
Prof. Sze Wing TANG, Department of Chinese Language and Literature, The Chinese University of Hong Kong
Dr. Siu Pong CHENG, Department of Chinese Language and Literature, The Chinese University of Hong Kong
Dr. Pit Shun LAI, Department of Chinese Language and Literature, The Chinese University of Hong Kong

Abstract
The Chinese Language Proficiency Courses are offered to both local and non-local students. Concerning the curriculum design, Cantonese Learning is the compulsory topic for the non-local students only. However, as the public started to emphasize Cantonese Learning, and there is a learning need for local students, some frontline teachers from Chinese Language Teaching Team incorporated the Cantonese learning into their teaching. As a result, the Department of Chinese Language and Literature planned to develop eLearning tools with the support of internal grants from CUHK, aiming to support students with extra resources for their Cantonese learning in the Chinese Language Proficiency Courses, and encourage them to self-learn in their spare time. The four main eLearning tools have been launched:
1. Online self-assessment test for fundamental knowledge of Cantonese(question bank ~ 200 with detail explaination)
2. Micro-modules for learning Cantonese Romanization
3. Micro-modules of Cantonese
4. CanTONEse (App)

The above-mentioned eLearning tools have been launched since 2018/19, the outcomes have yet to be analyzed. Poster presentation will be adopted to share our ideas and experiences with the audience at the EXPO, introducing the design and functions of the eLearning tools and the curriculum design. We hope to receive the comments from the experts, as references for the curriculum development in the future.

View **Poster**
View **Video**

Online Venue
Room A

Areas of Interest
MMCD and MOOC II

香港中文大學
The Chinese University of Hong Kong

CU Medicine HONG KONG
香港中文大學醫學院
Faculty of Medicine
The Chinese University of Hong Kong

香港中文大學醫學院那打素護理學院
The Nethersole School of Nursing
Faculty of Medicine
The Chinese University of Hong Kong

Sally WS Lo, Philip MW Hung, Zoe CM Kwok, Fiona WK Tang
The Nethersole School of Nursing, Faculty of Medicine, CUHK

Aim:
This project aimed to assess the feasibility of using micro-modules for the topics in the Basic Care in Gerontology course offered to Year 1 students in the Gerontology.

Production Strategy :
The production of the MMs adopted a number of multimedia software, including:

Articulate 360: A set of authoring tools for course developments.
Camtasia: A simple but intuitive video-editing software.
GoAnimate: Web-based tool to constructed animated video.

Deliverables:
4 micro-modules have been developed and used in Flipped Classroom Teaching.

In total, four MMs were produced. Each MM lasted for 20 minutes in the combination of: (1) annotated course contents; (2) tailored made video/ animations, and (3) Questions for self-evaluation.

Using MICRO-MODULEs for Gerontology Students: a feasibility study

Evaluation: Self-administered survey:
- Ten 6-point Likert-type item to reflect their perception, usefulness and satisfaction.

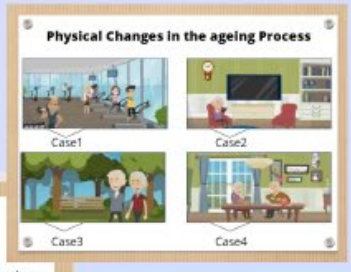
Results:
- N=26 students completed the survey
- majority of students agreed that they had a positive learning experience
- Item mean score ranged from 4.35 to 5.04.
- In particular, the mean of the items used to assess students' perceptions on the usefulness* and satisfaction of the Micro-module were 4.94 and 4.89 respectively.

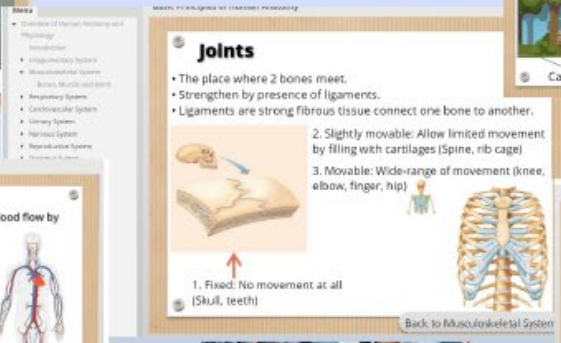
Item	Mean	SD
The content is arranged in a clear and logical way.	5.04	0.528
The content adequately explains the knowledge, skills and concepts it presents.*	5.00	0.748
The activities help you to gain a clear understanding of the subject.*	5.04	0.662
The amount of time it takes to complete the micro-modules is appropriate.	4.96	0.720
The pace of the micro-modules is appropriate.	4.81	0.749
The interactivity in the micro-modules is suitable for the content.*	4.77	0.652
The animations/ videos posted in the micro-modules are attractive.	4.88	0.720
The quality of multimedia (audio, video, and animation) used in the micro-modules is good.	4.88	0.653
I enjoyed browsing the micro-modules.	4.62	0.804
I prefer to have the lecturer delivering the contents in classroom.	4.35	1.056

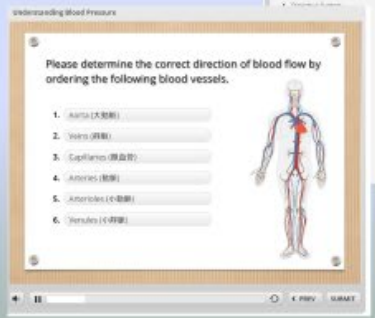
Utilization and Application:
All students enrolled in the course accessed and completed all the activities in the Micro-modules.

(Class size=29)	MM1	MM2	MM 3	MM 4
Completion rate	N=29 (100%)	N=29 (100%)	N=29 (100%)	N=29 (100%)

Conclusion:
This innovative use of the micro-modules is hoped to enhance the teaching and learning process. Similar approach may be considered to other related courses so as to facilitate the self-paced learning.







This project is supported by the Micro-Module Courseware Development Grant@CUHK

P06: Using Micro-Modules for Gerontology Students: A Feasibility Study

Presented by
Dr. Sally WS LO, The Nethersole School of Nursing, The Chinese University of Hong Kong
Dr. Fiona WK TANG, The Nethersole School of Nursing, The Chinese University of Hong Kong
Dr. Philip MW HUNG, The Nethersole School of Nursing, The Chinese University of Hong Kong
Ms. Zoe CM KWOK, The Nethersole School of Nursing, The Chinese University of Hong Kong

Abstract
This project aimed to assess the feasibility of using micro-modules for the topics in the Basic Care in Gerontology course offered to Year 1 students in the Gerontology Programme, of which is a special 2-year-articulated Programme for sub-degree graduates. The objectives of the project are: (1) to enhance students' understanding of the human body system; (2) to apply the knowledge learnt in micro-modules into basic care practice; and (3) to support the flipped-classroom implementation.

In total, 4 micro-modules have been developed and used in Flipped Classroom Teaching. Each micro-module lasted for approximately 20 minutes and contained tailored made video/ animations on course contents, followed by some questions for self-evaluation. The total duration time were 80 minutes.

Students enrolled the course were invited to complete a self-administered survey. The survey comprised of ten 6-point Likert-type item to reflect their perception on the usefulness and satisfaction of the Micro-modules. The results showed that the majority of students agreed that they had a positive learning experience of using the Micro-modules with item mean score ranged from 3.89 to 6.00. In particular, the mean of the items used to assess students' perceptions on the usefulness and satisfaction of the Micro-module were 4.94 and 4.89 respectively. Overall, findings from the survey data demonstrate that students were positive towards the usage of Micro-modules.

With the innovative use of the micro-modules, it is our hope that the teaching and learning process could be enhanced. Students also preferred this approach and enjoyed browsing the micro-modules. Similar approach may be considered to other related courses so as to facilitate the self-paced learning.

View **Poster**
View **Video**

Online Venue
Room A

Areas of Interest
MMCD and MOOC II

Making of MMCDs

Experience Sharing Supported by eLearning Community of Practice (eLCoP)

eLearning Community of Practice

香港中文大學 The Chinese University of Hong Kong

Author List

Dr. Isabel Shui Shan HWANG[1], Dr. Frankie Kwan Kit WONG[2], Professor Suzanne Ho Wai SO[3], Dr. Kai Ming KIANG[4], Dr. Pit Shun LAI[5], Dr. Andrew Chi Lok YUEN[6], Daniel Chi Wo LEE[7], Miranda LEE[8], Professor Steve TSE[9], Professor Carmen WONG[10], Cherry Hiu Ching TSOI[11], Rita Ming Man AU YEUNG[12] and Eddie KWOK[12]

Mission Statement

The Micro-Module Courseware Subgroup strives to form close ties between teachers at CUHK who share the vision of using to facilitate their teaching and development. We aim to support, share and stimulate new ideas. We believe that micro-modules help students to get the most out of their classes.

MMCD-Making

Teachers in the Micro-Module Courseware Development (MMCD) group of the eLearning Community of Practice has put effort over the past year to develop a video-case archive with seven stories regarding how they have used the MMCD concept to enhance teaching and learning.

The seven cases share the experiences from teachers in the School of Biomedical Sciences, Department of Geography and Resource Management, Department of Psychology, Office of University General Education, Department of Chinese Language and Literature, Department of Decision Sciences and Managerial Economics, and Department of Sports Science and Physical Education.

The videos effectively illustrate the various opportunities arising from the use of MMCD which would encourage new teachers to explore more new ways to produce and utilize their own MMCD.

MMCD Use

The eLCoP MMCD group has also completed a survey study in 2019 to solicit best practice as well as lessons learnt. The survey was successfully administered to 46 project leaders of Micro-Module Courseware Development Grants (MMCDGS) in the University (granted projects since the MMCDGS scheme was launched) during the survey period between October 2018 and April 2019.

Here are some of the survey data as well as comments collected regarding both positive and negative aspects of using MMCD in teaching and learning.

Background Information

The MMCD was about course(s) in:

My MMCD was for:

Teaching with MMCD

I think MMCD is mainly good for (may select more than one choice):

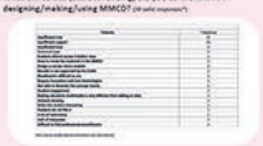
The ideal length of each MMCD is:

The MMCD should be about (may select more than one choice):

What are the good features in a MMCD? (may select more than one choice):

What was/were the main benefits from using MMCD? (Or write responses):

What difficulties (besides funding) did you confront when designing/making/using MMCD? (Or write responses):



To Learn More

To view the video-case archive and survey report, please visit eLCoP website at http://www.cuhk.edu.hk/clear/eLCOP

[1] School of Biomedical Sciences, [2] Department of Geography and Resource Management, [3] Department of Psychology, [4] Office of University General Education, [5] Department of Chinese Language and Literature, [6] Department of Decision Sciences and Managerial Economics, [7] Physical Education Unit, [8] English Language Teaching Unit, [9] Department of Chemistry, [10] The JC School of Public Health and Primary Care, [11] Centre for Learning Enhancement And Research and [12] Centre for eLearning Innovation and Technology

Funded by Teaching Development and Language Enhancement Grant (TDLEG) 2016 -19 Triennium

P08: Making of MMCDs - Experience Sharing Supported by eLearning Community of Practice (eLCoP)

Presented by
Dr. Pit Shun LAI, Department of Chinese Language and Literature, The Chinese University of Hong Kong
Dr. Isabel Shui Shan HWANG, School of Biomedical Sciences, The Chinese University of Hong Kong
Dr. Frankie Kwan Kit WONG, Department of Geography and Resource Management, The Chinese University of Hong Kong
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Ms. Rita Ming Man AU YEUNG, Centre for Learning Enhancement And Research, The Chinese University of Hong Kong
Mr. Eddie KWOK, Centre for eLearning Innovation and Technology, The Chinese University of Hong Kong

Abstract
Teachers in the Micro-Module Courseware Development (MMCD) group of the eLearning Community of Practice has spent a great deal of effort over the past year, to develop a video-case archive with seven stories regarding how they have used the MMCD concept to enhance teaching and learning. In other words, how short self-learning modules/videos have been designed, made and used to assist teaching and learning in their own courses.

Seven cases are now prepared to share the experiences from teachers in the School of Biomedical Sciences, Department of Geography and Resource Management, Department of Psychology, Office of University General Education, Department of Chinese Language and Literature, Department of Decision Sciences and Managerial Economics, and Department of Sports Science and Physical Education. They should effectively show the various opportunities regarding the use of MMCD, and they should assist teachers who are new in using MMCD to achieve the best possible benefits.

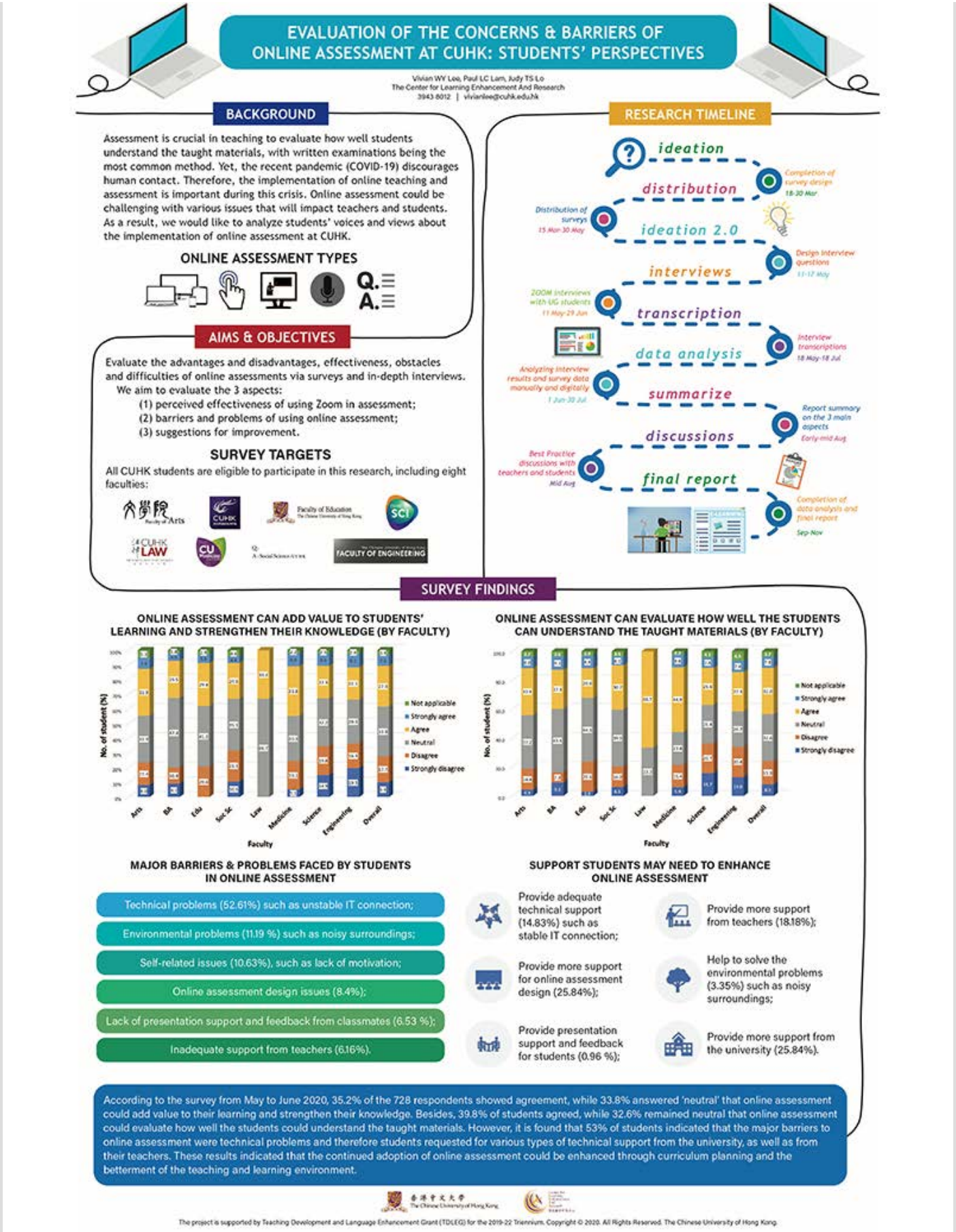
Apart from the case stories, the poster also reports a survey study that was conducted in 2018 to solicit best features and practices of MMCD.

View **Poster**
View **Video**

Online Venue
Room A

Areas of Interest
MMCD and MOOC II

ONLINE ASSESSMENT



P29: Evaluation of the Concerns and Barriers of Online Assessment - Students' Perspectives

Presented by
Prof. Paul LAM, Centre for Learning Enhancement And Research, The Chinese University of Hong Kong
Judy LO, Head, Education Technology, Information Technology Services Centre, The Chinese University of Hong

Kong
Prof. Vivian Wing Yan LEE, Centre for Learning Enhancement And Research, The Chinese University of Hong Kong

Abstract
The implementation of online assessment was commenced during the COVID-19 pandemics. The current paper will share our findings related to the online assessment at the Chinese University of Hong Kong. In this survey, we adopted both qualitative and quantitative approaches to evaluate (1) the perceived effectiveness of using ZOOM in online assessment; (2) barriers and problems of using online assessment; and (3) suggestions for improvement. The online survey was conducted from May to June 2020, 728 full-time undergraduate and postgraduate students have completed the questionnaires. Forty-three undergraduate students attended an individual interview. For the perceived effectiveness of online assessment, 33.8% of students were neutral on whether online assessment could add value to their learning and strengthen their knowledge and 32.4% of the students were neutral on whether online assessment could evaluate how well the content they were taught. Problems faced by the students included technical problems (49.39%) such as unstable IT connection, followed by self-related issues (9.46%), such as lack of motivation; environmental problems (9.28 %) such as noisy surroundings; online assessment design issues (7.01%); inadequate support from teachers (5.6%); lack of presentation support and feedback from classmates (5.25 %). Suggestions for improvement such as increasing the proportion of formative assessments; providing quiet study zones; giving more online mock exams; designing the exam questions in a user-friendly way that can prevent cheating; providing financial support to upgrade students' equipment and internet connection were proposed. Implications for future curriculum and assessment design will be drawn at the end of this project.

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View **Video**

Online Venue
Room B

Areas of Interest
Online Assessment

nline assessment strategies: Insights from Recent Studies

Memebers/ Contacts:

Dr. Molly Pui Man Wong
molly.wong@cuhk.edu.hk

Dr. Florence Mei Kuen Tang
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School of Biomedical Sciences, CUHK

Challenges and Opportunities: The COVID-19 Influence

In view of the outbreak of COVID-19, the University recommended teachers to facilitate and conduct online assessments and to avoid face-to-face examinations. Traditionally, tests and exams are key components in continuous assessment to assess and monitor students' learning and academic progress.

To assess our students based on the criteria recommended by the University, we have revised our assessment schemes for our course, SBMS1432 Human Anatomy and Physiology II, accordingly, and replaced all on-campus assessments with online assessments or e-assessments. It was a big challenge as changing the assessment format into an online mode involved a tremendous amount of work and effort putting together to ensure the academic integrity maintenance and success of the systemic computer technology approach when compared with the traditional written assessment.

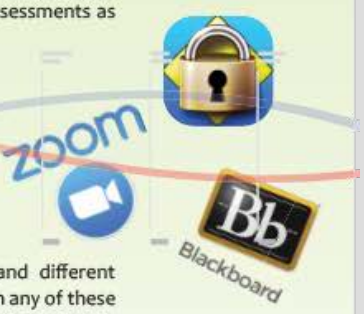
Objectives

We investigated on the feasibility and effectiveness of the revised assessment methods and how to maintain the academic integrity for the online assessments in the course, SBMS1432, Human Anatomy and Physiology II with a class size of about 70 students.

Methodology

We set a total of two multiple-choice question online tests and one online exam in this course. We have analyzed and compared various formats for display and different combinations of invigilation methods in the online assessments as shown.

Formats of Multiple-Choice Question Setting	Invigilation Methods
1. Display all questions at a time	a. Blackboard with Zoom monitoring
2. Display questions one at a time (Trial only)	b. Lockdown Browser with Response Monitor
3. Display all questions at a time	c. Lockdown Browser with Response Monitor plus Zoom monitoring
4. Randomize the order of questions or answers	d. Lockdown Browser with Zoom monitoring



Discussions

After having tested and analyzed the feasibility and the effectiveness of each of these formats and different combinations of invigilation methods of the online assessments, we found that there were pros and cons in any of these methods. Therefore, there is indeed no "magic" solutions to ensure the academic integrity of students. On the one hand, we trust our students. On the other hand, we ought to provide fair assessments and ensure academic integrity. We could only do our best to minimize the chance of cheating while ensuring that these online assessments could serve as appropriate assessments for our students and preventive measures against the potential spreading of COVID-19.

Take Home Messages

To conclude, it is important to ensure a stable internet connection on both ends (examiners/invigilators and students), provide clear and detailed instructions and guidelines to both students and invigilators with test trials in advance, and a smooth systemic invigilation process. In the future, there is a need to promote academic integrity widely on campus. Both teachers and students should have mutual understanding about the standards and the consequences of the academic dishonesty and cheating.

Acknowledgements

Division of Education, School of Biomedical Sciences, Faculty of Medicine, CUHK
Mr. Ray Lee, Information Technology Service Center, CUHK
Prof. Simon Au and Ms. Shirley Tsui, Division of Education, School of Biomedical Sciences, Faculty of Medicine, CUHK

P30: Online Assessment Strategies: Insights from Recent Studies

Presented by
Dr. Molly P.M. WONG, School of Biomedical Sciences, The Chinese University of Hong Kong
Dr. Florence M.K. TANG, School of Biomedical Sciences, The Chinese University of Hong Kong

Abstract
Traditionally, tests/exams are key components to assess and monitor students' learning and academic progress. The standard pen-and-paper format is usually adopted to test students' understanding on the subject matter in proctored tests/exams. To ensure academic integrity and fairness, students are arranged in classrooms to complete the tests/exams in proctored environments to prevent cheating.

In view of the outbreak of COVID-19, the University recommended teachers to conduct online assessments. Based on these criteria, we revised our assessment schemes for our course, SBMS1432 Human Anatomy and Physiology II. It was a big challenge as changing the assessment format into an online mode involved a tremendous amount of effort to ensure the success of systemic computer technology approach when compared with traditional written assessment.

In our presentation, we will discuss and share our experiences about our assessment strategies, and how we managed to maintain academic integrity for the online assessments. There was a total of three multiple-choice question online tests/exams. We designed and conduced them in various formats, a) display all questions at a time, b) display questions one at a time, and c) randomize the order of questions/answers. Furthermore, we adopted three different combinations of invigilation methods, i) Blackboard with Zoom monitoring, ii) Lockdown Browser with Response Monitor plus Zoom monitoring, and iii) Lockdown Browser with Zoom monitoring.

To conclude, it is important to ensure a stable internet connection, provide clear and detailed instructions and guidelines to both students and invigilators with test trials in advance, and a smooth systemic invigilation process.

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Online Venue
Room B

Areas of Interest
Online Assessment

Many from one: creating individualized datasets for student assessment from a single one

Abstract

- It is common for the final exam of a statistics course to include questions requiring the selection and application of statistical techniques to a given dataset.
- Due to COVID 19, this past semester final exams were held online.
- To reduce the likelihood of sharing of answers, it would be better if each student received a similar (same variables and structure) but unique (different values) dataset.
- Students of STAT3210: Statistical Techniques in Life Sciences received their final exam questions and datasets (in XLSX format) simultaneously by email.
- Rather than generate 53 (the class size) unique spreadsheets and send them to students individually, we created a single master spreadsheet which is sent to all and produces individualized data upon the entry of a unique identifying number, in this case a student ID number.
- All that is required are simple Excel functions.
- Following the successful application of this "master spreadsheet" last semester, we will use it for take home assignments in 2020-21.

Background

- STAT3210 is offered by the Department of Statistics and traditionally taken by Food and Nutritional Sciences, Biochemistry, Environmental Science majors, among others.
- They learn how to analyse scientific data using appropriate statistical methods, like hypothesis tests and linear regression.
- The format of the 2019/20 STAT3210 final exam was non-invigilated, open-book take-home, with solutions submitted to Veriguide.

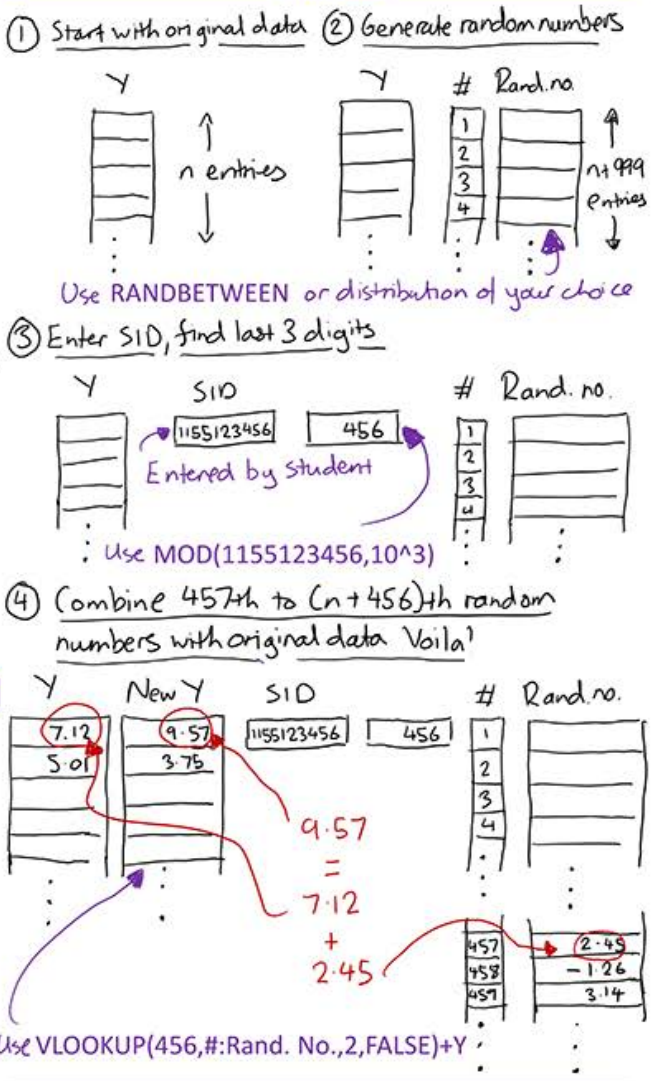
The Problem

- Given the nature of the course, it was impossible to avoid a question involving students analysing a dataset using the methods they have learned.
- If students received the same dataset, they may be tempted to share their numerical answers with each other.
- Copying of numerical solutions is often hard to detect.

The Solution

- The dataset was to be distributed in XLSX format.
- So use Excel to create a master spreadsheet, which upon entry of the student's SID, makes it unique.

Method



Other Advantages

- Changing data not only changes numerical results, but (possibly) conclusions of hypothesis test results end even which tests are appropriate.
- Easy to mark: set up all possible tests in master spreadsheet, marker enters SID to reveal correct answers.

Future plans

- Incorporate into assignments, where applicable.
- Adapt for different types of data: ordinal, nominal.

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The Chinese University of Hong Kong

Dr. John A. Wright
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P31: Many from One: Creating Individualized Datasets for Student Assessment from Single One

Presented by
Dr. John Alexander WRIGHT, Department of Statistics, The Chinese University of Hong Kong

Abstract
It is common for final exams of a statistics course to include questions requiring the selection and application of statistical techniques to a given dataset. Due to COVID 19, this past semester final exams were held online. To reduce the likelihood of sharing of answers, it would be better if each student received a similar (same variables and structure) but unique (different values) dataset. Students received the exam questions and datasets (in XLSX format) simultaneously by email. Rather than create 61 (the class size) unique spreadsheets and send them to students individually, we create a single master spreadsheet which is sent to all and generates individualized data upon the entry of a unique identifying number, in this case a student ID number. All that is required are simple Excel functions. Following the successful application of this "master spreadsheet" last semester, we will use it for take home assignments in 2020-21.

View **Poster**
View **Video**

Online Venue
Room B

Areas of Interest
Online Assessment

ONLINE TEACHING

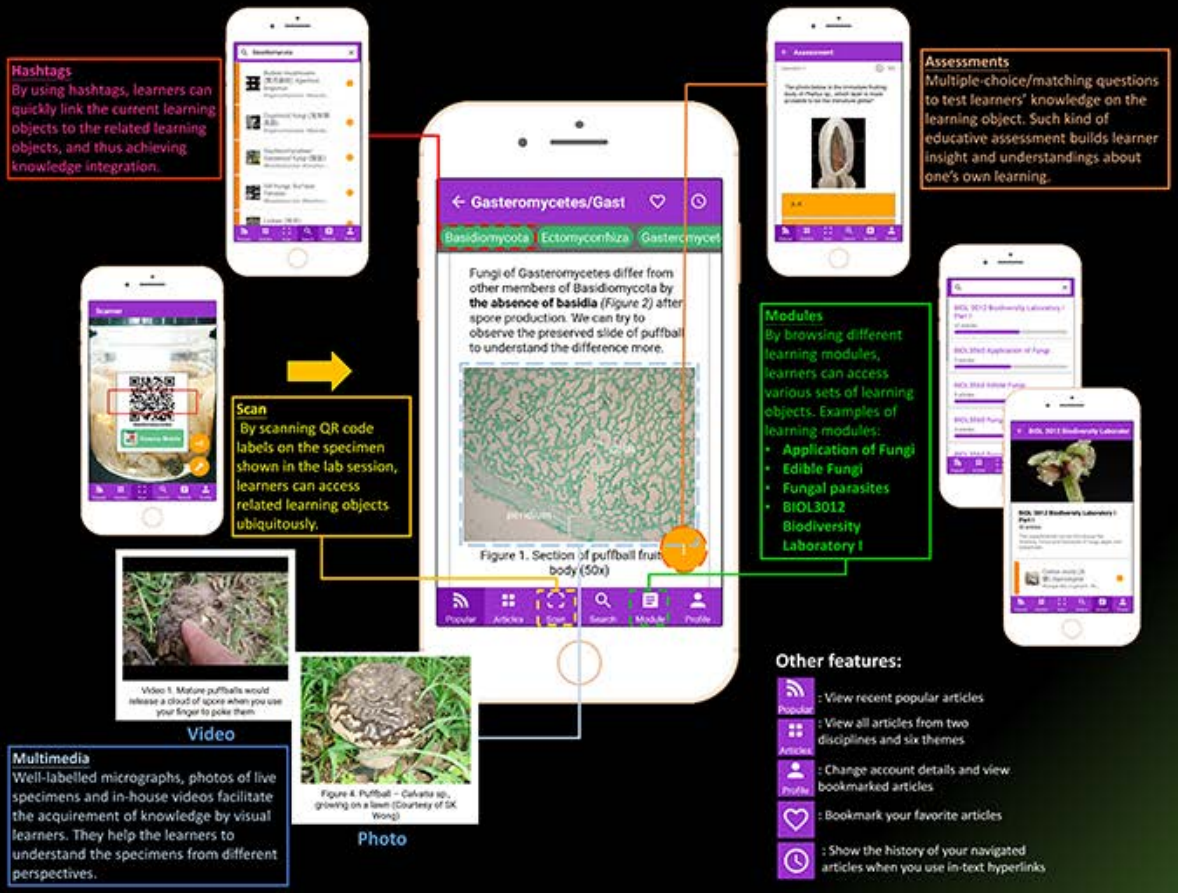
Learning Fungal and Plant Biology via "Science Mobile"

Cheung-Ming Chow, Siu-Kwan Wong & Ka-Man Carmen Cheng
School of Life Sciences

Introduction

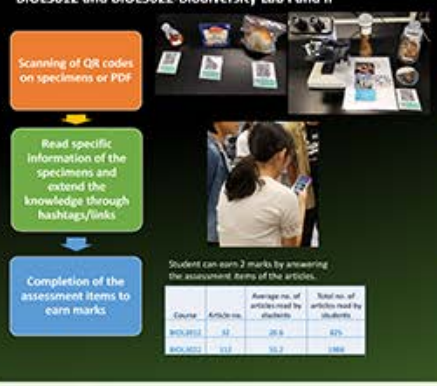
Our project enhances the learning experience for students by

- promoting **ubiquitous learning** by digitalising lab specimens and wildlife examples with relevant information and explanation;
- fostering **knowledge integration** with ***hashtags*** and ***in-text links*** for swift connection to related topics;
- guiding students with **learning modules** so that they can go step by step in their learning pathway;
- encouraging **self-learning** with self-assessment and in-class sharing.



Implementation

Lab Courses:
BIOL3012 and BIOL3022-Biodiversity Lab I and II



Lecture Courses:
BIOL3560-Biology of Fungi and Non-vascular Plants
BIOL3570-Biology of Vascular Plants

Module Statistics
Students' performance in assessment can be viewed on the teacher panel of Science Mobile. Course instructors may use the statistics for evaluation and grading.

Conclusion and Future prospective

We have so far created over 226 learning objects and 15 modules/learning paths under the themes "Plant Biodiversity" and "Fungal Biodiversity" in "Science Mobile" apps, including 19 videos, 1080 photos, 43 illustrations, 397 questions and 800 hashtags/links in addition to the basic information and descriptions. In the coming few months, we aim to enrich the themes with additional videos and learning objects.

Items	Uploaded	Goals
Learning objects	226	240
Photos	1080	~ 1200
Illustrations	43	
Videos	19	
Questions	397	~400

The courseware is supported by UGC-Funded Teaching and Learning Related Initiatives (2016-2019 Triennium) (as a part of the project "Establishment of Ubiquitous Learning in Teaching and Learning Science for Knowledge Integration (Chemistry and Life Science)").

P32: Learning Fungal and Plant Biology via “Science Mobile”

Presented by
Dr. Cheung-Ming CHOW, School of Life Sciences, The Chinese University of Hong Kong
Mr. Siu-Kwan WONG, School of Life Sciences, The Chinese University of Hong Kong
Ms. Ka-Man Carmen CHENG, School of Life Sciences, The Chinese University of Hong Kong

Abstract
To promote knowledge integration, self-learning and ubiquitous learning among Biology students, we have so far created over 226 learning objects and 15 modules/learning paths under the themes “Plant Biodiversity” and “Fungal Biodiversity” in “Science Mobile” apps, including 19 videos, 1080 photos, 43 illustrations, 397 questions and more than 800 hashtags/links in addition to the basic information and descriptions.

In the pilot test during the 1st term of 2019-20 academic year, “Science Mobile” has been implemented in one lab course (BIOL3012) and one lecture course (BIOL3560). In the lab course, to achieve ubiquitous learning, students were directed to the specimen-related learning objects in “Science Mobile” after scanning QR codes on the specimens. With the hashtags/links provided, this helps lab students to not only appreciate the significance of specimen features but also integrate their observations with knowledge from the relevant lectures. In the lecture course, to promote self-learning and knowledge sharing, each student was assigned to read a module in “Science Mobile” and then shared his/her knowledge in the class activity. In both courses, the student performance in the self-tests of “Science Mobile” is included in the course assessment’s scheme. During the 2nd term, “Science Mobile” has also been used in the distance learning. For the lab course (BIOL3022), PDF files with QR codes have been provided while students of a lecture course (BIOL3570) used relevant modules in “Science Mobile”for preparing their breakout room discussion.

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View **Video**

Session
Room B

Areas of Interest
Online Teaching I

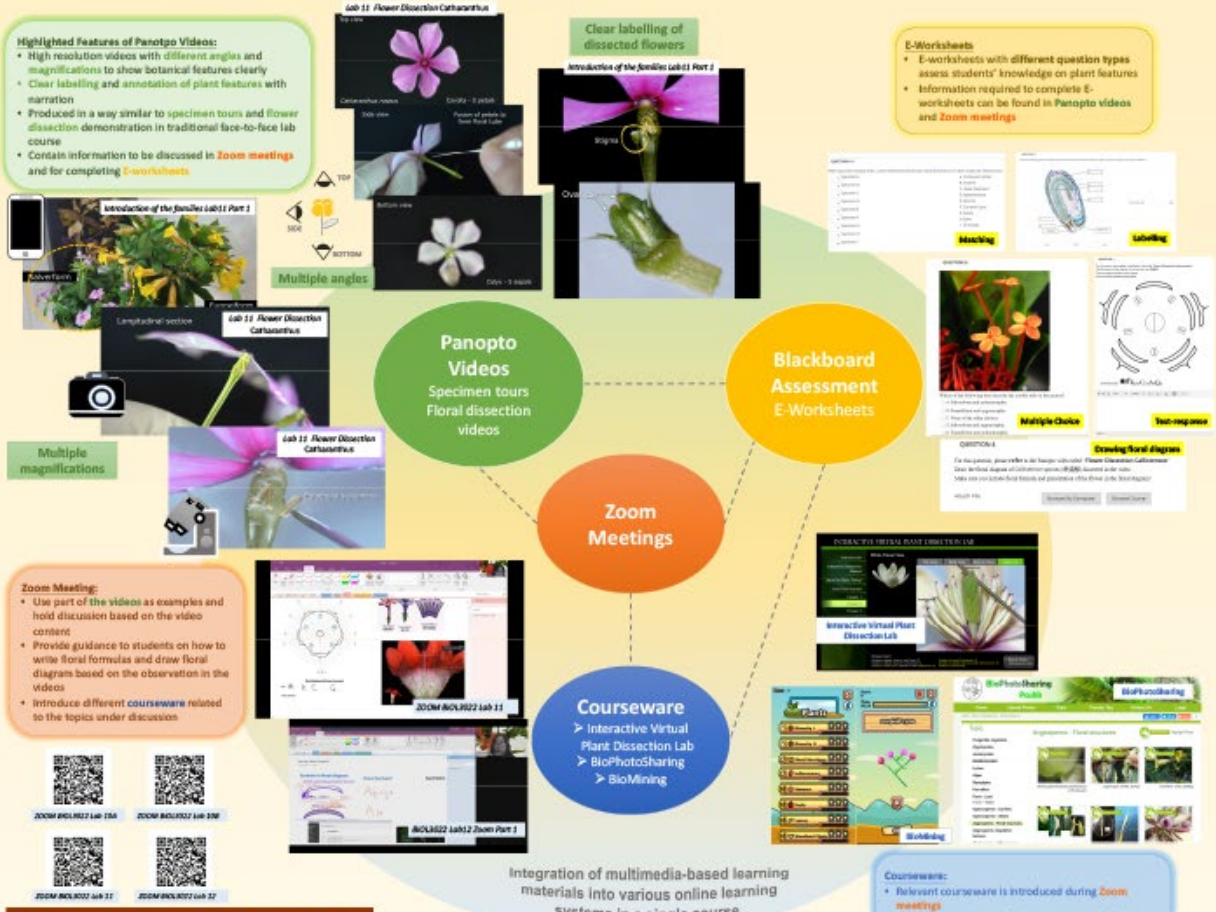
Development of a Prototype for preparing an Online Laboratory Course

Cheung-Ming Chow & Ka-Man Carmen Cheng
School of Life Sciences

Introduction

Our project aims to

- provide the **online learning experience with quality comparable to the traditional lab teaching** by producing **detailed labelled videos with narration** which can be used during **ZOOM teaching** and also as stand-alone learning materials that students can go through at their own pace;
- serve as a **prototype** for preparing an online lab course and **integrating** multimedia-based learning materials into various online learning systems, including **Zoom**, **Panopto**, **Blackboard** and various **courseware**.

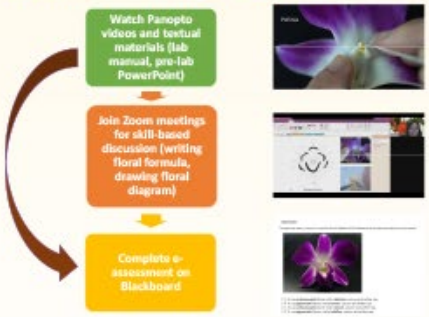


Project implementation

❖ The project mainly supported the distance learning of BIOL3022 Biodiversity Lab II to substitute the specimen tours and dissection demonstrations.
❖ It also supported the production of 4 subtitled videos about plant identification and one Zoom session for the virtual campus walk activity of BIOL3570.

Course	No. of students enrolled	No. of videos	Average no. of views per video	No. of Zoom sessions	Average no. of views per Zoom session
BIOL3022	35	29	42	4	44
BIOL3570	53	4		1	

Lab Course:
BIOL3022-Biodiversity Lab II (Lab 10A – Lab 12)



Lecture Course:
BIOL3570-Biology of Vascular Plants (Campus walk activity)

Conclusion and Future prospective

✓ A total of **33 videos and 5 Zoom sessions** are produced under this project.
  ✓ 29 specimen-based videos and 4 Zoom sessions for 4 lab sessions of BIOL3022
  ✓ 4 videos and one Zoom session for the campus walk activity of BIOL3570
➢ A **e-user guide** is being produced to document the integration process and experience in video taking for online lab teaching.
  ➢ Expected to be available online to CUHK teachers in August 2020

✓ We have received positive responses from a majority of students and graduate teaching assistants of BIOL3022.

Respondent	No. of responses	Effective in delivering key learning foci		Satisfactory user experience	
		Agree	Strongly agree	Agree	Strongly agree
Students	22	36%	32%	46%	23%
Graduate Assistants	9	78%	22%	67%	33%

This project is funded by Special Funding Scheme for Online Learning (supported by the Teaching Development and Language Enhancement Grant for 2019-22)

P33: Development of a Prototype for Preparing an Online Laboratory Course

Presented by
Ms. Carmen Ka Man Carmen CHENG, School of Life Sciences, The Chinese University of Hong Kong
Dr. Cherry Cheung Ming CHOW, School of Life Sciences, The Chinese University of Hong Kong

Abstract
Biodiversity Lab II (BIOL3022) requires students to study morphological features of organisms and their adaptive values through observation and dissection in addition to the traditional knowledge delivery. In order to provide online learning experience with quality compatible to the traditional lab teaching, this project aims to produce narrated specimen-based videos with high clarity and good resolution, which can be used during Zoom teaching and as stand-alone learning materials that students can go through at their own pace. This project also acts as a prototype for preparing an online lab course and integrating the multimedia-based learning materials into various online learning systems, including Zoom, Panopto and Blackboard.
For each lab, students were asked to view selected videos before the Zoom meeting. During Zoom meeting, the teacher played part of the videos and held discussion based on the video content, interacting with students in a way similar to small group specimen tours and dissection demonstrations in traditional lab classes. The videos also included the specimens that students need to observe and analyse for completing e-worksheets on Blackboard.
For these four lab sessions, a total of 29 specimen-based videos were produced and uploaded to Panopto, including 10 specimen tours and 19 flower dissection demonstrations. Four Zoom sessions were conducted and made available as Panopto videos. Moreover, the project supported the production of 4 videos and one Zoom session for the virtual campus walk activity of BIOL3570. These videos illustrate how to use various tools for studying and identifying plants with examples.

View **Poster**
View **Video**

Session
Room B

Areas of Interest
Online Teaching I

DeepMind and Beyond:

Using Machine Learning to teach an Artificial Intelligence anatomy for medical education

SEE Christopher [1], LI Yalsin Yik Sum [2], LAM Cynthia Sin Nga [2], POON Hong Kit Sam [1],
WAI Sen Mun Maria [1], LAU Wing Sze Josephine [1], CHAN Lap Ki [3], CHAN Sun On Hector [1]

1. School of Biomedical Sciences, Faculty of Medicine, CUHK
2. LKS Faculty of Medicine, The University of Hong Kong
3. Faculty of Medicine, Macau University of Science and Technology, Macau

1. Introduction

In the COVID-19 era of distance learning, Artificial Intelligence (AI) agents conversing through dialogue systems offer a way to capture an important pedagogy; the **individual student-teacher discussion**. In order to achieve this, the first step is training the AI on the subject matter to be discussed.

Customising open-source AI tools from Google's DeepMind, we attempted to answer the **research question** - *"Can we train an AI to discuss human anatomy via Machine Learning?"*

2. Methods

- To develop our Artificial Intelligence Support System (AISS) Anatomy Bot, we created **a web application** and used multiple different modules to relay prompts and responses in order to build a controlled yet smart chatbot. Models used in the AISS bot includes BERT with a question-answering head pre-trained with SQUAD2.0 dataset, an open source tool.
- We constructed a **customised training database** of anatomical information linked to the UK Anatomy Syllabus for Medical Graduates (Smith et al 2016) and trained our AI agent using Machine Learning in Microsoft's Azure ML environment.
- A subset of the research team **including students** independently formulated questioned to pose to the AI and typed them via a dialogue interface in our app.
- The AI gave an answer with an associated confidence value, and these were reviewed by a **separate panel of experienced anatomy teachers**.

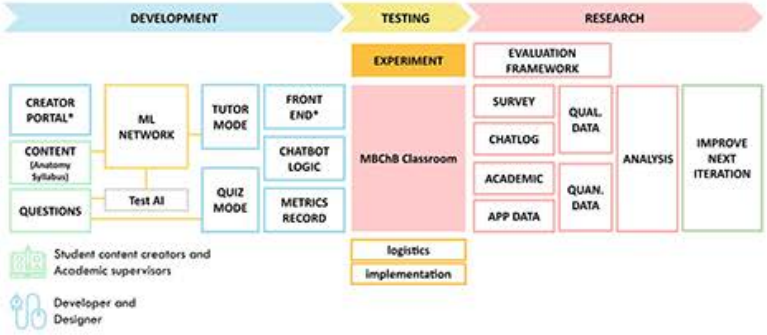


Fig 1: The research and development pipeline of AISS Bot development and evaluation

Fig 2.. Snapshot of the AISS Bot user interface

3. Results

The confidence values ranged from 0.56 to 0.70, indicating the degree to which the algorithm thinks its answer is correct. All of the questions were assessed to have been answered correctly by the anatomy teaching panel (N=15/15, 100%), **despite no explicit programming of questions or answers**.

Example Q&A Dialogue:

Student: What is epigastric vessel lateral to?
AISS BOT:: The deep ring of the inguinal canal.
Student: What's the use of the mid-point of the inguinal ligament?
AISS BOT:: It identifies the opening of the inguinal canal.
Student: What is the clinical significance of the inguinal canal then?
AISS BOT:: It can form potential weakness in abdominal wall and act as hernia sites.

4. Discussion & Conclusion

- For any digital learning application to be successful, it must **accurately understand the questions** posed to it by students.
- Mobile-based applications, courseware or learning games can be effective but are **limited** by the ability of the designers to **predict dialogue** or **give a limited pool of options** for students to select.
- **Truly intelligent AI agents** like ours have the potential to change this completely. This pilot study has demonstrated the ability to train a conversational agent which was able to handle questions of the type seen everyday teaching.
- **Unexpected questions**, simple spelling and grammatical errors posed no issue for the AI, as they do in non-intelligent systems.
- There are limitations to this study which is a work in progress, including the training of the AI against a limited amount of information and a relatively small subset of questions.
- Ongoing work is aimed at broadening of the scope of anatomy database upon which the AI has been trained, and **engaging real students in using the AI for learning**.

AISS
Artificial Intelligence Support System

This work is kindly supported by a
Teaching Development and Language Enhancement Grant

CU Medicine
香港中文大學醫學院
Faculty of Medicine
The Chinese University of Hong Kong

P34: DeepMind and Beyond: Using Machine Learning to Teach an Artificial Intelligence Anatomy for Medical Education

Presented by
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Abstract
In the COVID-19 era of distance learning, Artificial Intelligence (AI) agents conversing through dialogue systems offer a way to capture an important pedagogy; the individual student-teacher discussion. In order to achieve this, the first step is training the AI on the subject matter to be discussed.

Customising open-source AI tools from Google's DeepMind, we attempted to answer the research question; 'Can we train an AI to discuss human anatomy via Machine Learning?'

Methods

The research team constructed a customised training database of anatomical information linked to the UK Anatomy Syllabus for Medical Graduates and trained an AI agent using Machine Learning.

A subset of research team members independently formulated questioned to be posed to the AI and typed them via a dialogue interface. The AI gave an answer with an associated confidence value, and these were reviewed by a separate panel of experienced anatomy teachers.

Results:

The confidence values ranged from 0.56 to 0.70, indicating the degree to which the algorithm thinks its answer is correct. All of the questions were assessed to have been answered correctly by the anatomy teaching panel (N=15/15, 100%), despite no explicit programming of questions or answers.

Discussion

This pilot study has demonstrated the ability to train a truly intelligent AI agent which was able to handle a variety of question formulations, the like of which may be encountered in day to day teaching. Unexpected questions, simple spelling and grammatical errors posed no issue for the AI, as they might do in other non-intelligent systems.

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Online Venue
Room B

Areas of Interest
Online Teaching I

Flipped Online Laboratory for Making the Students' First Robot

Dongkun Han, and Martin Leung
Department of Mechanical and Automation Engineering, CUHK

How can we conduct Hands-on training under COVID 19?

- Hands-on skills are essential learning outcomes of engineering courses.
- Students used to gaining their hands-on skills in the real lab with kinds of facilities and lab kits.

- COVID 19 prevents students from labs.
- Online demonstration cannot provide an effective way for hands-on training.

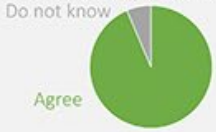
Key Features of Flipped Online Laboratory

- Key feature 1: Use remote control technique and Arduino-based programming for robot developing.
- Key feature 2: Generate micro-modules and implement flipped lab.

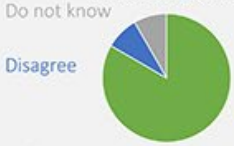
Online lab (synchronous) + Flipped lab (asynchronous)

Feedback from students

The micro-modules provide me useful information before my experiments.



Overall, I like the teaching pedagogy of flipped online laboratory.



The flipped online lab helps me to understand the basic concepts of robots.

Thanks to the online lab, I can enjoy the process of controlling a robotic arm online effectively.

The generated micro-modules make the process of building robotic arm very easy.

I found it is really interesting to control a robotic arm online.

I still cannot believe that I built a robotic arm by using the online lab.

Acknowledgement

This project is supported by TDLEG Special Funding Scheme for Online Learning from the Chinese University of Hong Kong. We appreciate the help and active participation from all students of UGEB2303 Robots in Action in term 2, 2019-2020.

香港中文大學 The Chinese University of Hong Kong
學能提升研究中心 Centre for Learning Enhancement And Research
itsc Information Technology Services Centre
Department of Mechanical and Automation Engineering 機械與自動化工程學系

P35: Flipped Online Laboratory for Making Students' First Robot

Presented by

Abstract

Hand-on skills training is an essentially significant component of many engineering courses, like robotics, electronics, mechanics and renewable energy. A major concern in online/distance engineering education is how can we overcome the problems associated with laboratory components of courses. In this proposal, a new eLearning pedagogical approach called flipped online laboratory is proposed and expected to be used in teaching robotics. The basic underlying idea is that an online (synchronous) laboratory could be conducted with the help of flipped (asynchronous) laboratory instructions for making students' first robot. An online robotic laboratory, on the one hand, is planning to be constructed based on our real robotic laboratory with real robots and corresponding computers. The conventional robotic laboratory can be transformed to an online laboratory thanks to the cross platform remote control technique, where students could use their personal computers in distance to control the computers in the lab, further tuning and controlling the robot in real time. In this way, some distinct advantages to students could be cherished by avoiding healthy problems and safety problems compared to conventional labs. On the other hand, this proposal combines with flipped laboratory, which allows students to learn from videos of laboratory instructions before each online lab at their convenience. As a result, more efforts could be devoted into problem solving and students-instructor interaction in synchronous online laboratory. The method will demonstrate its effectiveness in the existing course (UGEB2303 Robots in Action) where students without technical background could build and manipulate their first robot via the flipped online robotics laboratory.

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Online Venue

Room B

Areas of Interest

Online Teaching I

The Effectiveness of Simulation-based Zoom Learning on Enhancing Clinical Decision Making for Nursing Students

Carmen WH Chan [1], Ka Ming Chow [1], Ho Yu Cheng [1]
[1] The Nethersole School of Nursing, the Chinese University of Hong Kong

Introduction

- Given the current outbreak of the novel coronavirus (COVID-19), the Hospital Authority and universities have stepped up social distancing to combat the outbreak. Clinical practicum and assessment for nursing students has been suspended since January 2020.
- Final year nursing students are required to achieve clinical decision making for graduation and for the licensure of registered nurse in Hong Kong. The conventional use of Zoom education poses challenges and difficulties in clinical course development and student assessment (Kenny, 2002; Smith et al., 2009). With the successful experience in simulation-based teaching in the Nethersole School of Nursing, we propose a project to enhance clinical decision making by adopting simulation-based Zoom learning (SBZL) in online platform for students studying the Bachelor of Nursing (BNurs) programme.
- Simulation-based teaching is a teaching strategy that applies simulation technique to replace and amplify real experiences with guided ones in a fully interactive fashion (Lateef, 2010). It has been adopted in education of various health professionals to improve students' knowledge, skills and behaviour, and patient-related outcomes (Cook et al., 2011). In undergraduate nursing education, previous literature demonstrated its effectiveness in knowledge acquisition and psychomotor skills development, and improvement in students' self-efficacy, confidence and critical thinking (Cant & Cooper, 2017). After simulation training, students started to have the feeling of being a nurse and strive for maturing in the profession (Lestander et al., 2016). More importantly, patient safety can be ensured by simulation training in a controlled environment (Hughes, 2008).

Objectives

- To provide support to teachers for the development of courseware and implementation of SBZL
- To enhance students' knowledge on clinical decision making, perception of capabilities and teaching and learning environment via SBZL
- To disseminate evaluation result and advocate for innovative and good practice in university nursing education

Methods

- **Participants:** All year 5 BNurs students were invited to join the SBZL
- **Study design:** Pre-test post-test design and a historical control
- **SBZL development and implementation:**
  - **Briefing phase:** Students were provided with information related to the patient and tasks for Zoom discussion.
  - **Participation phase:** Students provided their plan of care (clinical decision making) through Zoom to the facilitator (laboratory staff) who operates the simulators to provide simulated feedbacks to the students.
  - **Debriefing phase:** Instructor explained the scenario and reflected the experience with students.

  A total of 38 case scenarios of total client care were developed and simulated using the six simulators with manikins in the simulation learning unit situated at the Clinical Learning and Simulation Center of the Nethersole School of Nursing.
- **Measurement of evaluation:**
  - Academic score compared with the previous cohort
  - Student Engagement Questionnaire (SEQ) compared before and after the SBZL, and with the previous cohort after the SBZL

Results and Discussion

Table 1 Comparison of students' capabilities and perceptions of teaching and learning environment before and after the intervention (n = 92)

SEQ (5 = strongly agree, 1 = strongly disagree)	Mean ± SD			
	Pre	Post	Mean difference	p*
Capability				
Critical thinking	3.95 ± 0.36	4.01 ± 0.35	0.06 ± 0.42	0.180
Creative thinking	3.68 ± 0.52	3.93 ± 0.42	0.24 ± 0.48	<0.001
Self-managed learning	3.93 ± 0.40	4.02 ± 0.39	0.08 ± 0.45	0.087
Adaptability	4.05 ± 0.41	4.02 ± 0.42	-0.03 ± 0.46	0.500
Problem solving	3.95 ± 0.39	3.96 ± 0.41	0.01 ± 0.47	0.827
Communication skills	3.93 ± 0.53	3.93 ± 0.48	0.01 ± 0.56	0.926
Interpersonal skills and groupwork	3.80 ± 0.61	3.91 ± 0.54	0.10 ± 0.60	0.105
Computer literacy	3.72 ± 0.68	3.86 ± 0.59	0.14 ± 0.60	0.032
Teaching and learning environment				
Active learning	3.92 ± 0.46	4.12 ± 0.45	0.20 ± 0.50	<0.001
Teaching for understanding	3.94 ± 0.40	4.09 ± 0.47	0.15 ± 0.42	0.001
Feedback to assist learning	3.65 ± 0.65	3.96 ± 0.48	0.31 ± 0.65	<0.001
Assessment	3.80 ± 0.49	3.96 ± 0.44	0.15 ± 0.44	0.001
Relationship between teachers and students	3.87 ± 0.53	4.07 ± 0.51	0.20 ± 0.53	<0.001
Workload	3.70 ± 0.58	3.90 ± 0.51	0.28 ± 0.49	<0.001
Relationship with other students	3.78 ± 0.66	3.80 ± 0.59	0.03 ± 0.66	0.696
Cooperative learning	3.81 ± 0.62	3.93 ± 0.47	0.12 ± 0.51	0.027
Coherence of curriculum	3.86 ± 0.45	3.97 ± 0.45	0.11 ± 0.49	0.034

SD: standard deviation; SEQ: student engagement questionnaire.
All participants who completed both pre- and post-intervention questionnaires were included in the analysis.
*The p-value is obtained from paired sample t-test, comparing changes of test scores within intervention group.

Table 2 Comparison of students' capabilities and perceptions of teaching and learning environment between participants after SBZL and historical control

SEQ (5 = strongly agree, 1 = strongly disagree)	Mean ± SD	
	After SBZL	Historical control*
Capability		
Critical thinking	4.00 ± 0.37	4.05 ± 0.45
Creative thinking	3.94 ± 0.42	3.95 ± 0.56
Self-managed learning	4.03 ± 0.43	4.02 ± 0.56
Adaptability	4.06 ± 0.45	4.14 ± 0.48
Problem solving	3.99 ± 0.42	4.13 ± 0.45
Communication skills	3.94 ± 0.47	4.03 ± 0.56
Interpersonal skills and groupwork	3.93 ± 0.54	4.03 ± 0.56
Computer literacy	3.85 ± 0.59	NA*
Teaching and learning environment		
Active learning	4.13 ± 0.47	3.95 ± 0.59
Teaching for understanding	4.13 ± 0.49	4.07 ± 0.55
Feedback to assist learning	3.99 ± 0.53	4.01 ± 0.58
Assessment	3.97 ± 0.48	4.04 ± 0.50
Relationship between teachers and students	4.07 ± 0.55	4.04 ± 0.57
Workload	3.93 ± 0.51	3.50 ± 0.89
Relationship with other students	3.80 ± 0.62	3.70 ± 0.73
Cooperative learning	3.92 ± 0.48	3.90 ± 0.68
Coherence of curriculum	3.96 ± 0.50	3.93 ± 0.58

NA: not available; SD: standard deviation; SEQ: student engagement questionnaire.
All participants who completed the post-intervention questionnaire (n = 110) were included in the analysis.
*The data of historical control was collected by CLEAR in 2018-2019.
*Computer literacy was not assessed in the previous cohort.

Table 3 Comparison of students' assessment score between participants after SBZL and historical control

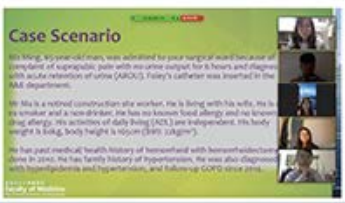
	Mean	
	After SBZL	Historical control*
NURS 4123	79.69	77.69
NURS 4124	77.16	76.56

All participants who completed the pre- and post-intervention questionnaire, and had the assessment score (n = 87) were included in the analysi
*The historical control involves all students in the cohort of 2018-2019.

- A total of 102 students completed the intervention, with 92 of them completed both pre- and post-intervention questionnaires were included in the analyses. Students had significantly improvement in SEQ creative thinking, computer literacy, active learning, teaching for understanding, feedback to assist learning, assessment, relationship between teachers and students, workload, cooperative learning and coherence of curriculum scores ($p<0.05$) (Table 1). Similar scores were noted in students after SBZL when compared with the historical control (Table 2). In terms of the assessment scores (Table 3), students after SBZL obtained higher scores than the previous cohort.
- The results demonstrated the improvement in students' knowledge on clinical decision making, perception of capabilities and teaching and learning environment after SBZL.

Acknowledgement

This study was funded by Teaching Development and Language Enhancement Grant for the 2019-22 Triennium (Special Funding Scheme for Online Learning)



P36: The effectiveness of Simulation-based Zoom Learning (SBZL) on Enhancing Clinical Decision Making for Nursing Students

Presented by
Prof. Carmen Wing Han CHAN, The Nethersole School of Nursing, The Chinese University of Hong Kong
Prof. Ka Ming CHOW, The Nethersole School of Nursing, The Chinese University of Hong Kong
Prof. Ho Yu CHENG, The Nethersole School of Nursing, The Chinese University of Hong Kong

Abstract
The Hong Kong Hospital Authority has stepped up social distancing to combat the novel coronavirus outbreak. Clinical practicum and assessment for nursing students has been suspended since January 2020. Final year nursing students are required to achieve clinical decision making for graduation and for the licensure of registered nurse in Hong Kong. The project aims to provide support to teachers for the development of courseware and implementation of simulation-based Zoom learning (SBZL) activities to substitute clinical practicum. It also examines the effectiveness of SBZL on students' clinical knowledge and decision making, perception of capabilities and teaching and learning environment, and teachers' perception and experience of SBZL. Influential factors to the success and failure of SBZL will be identified. SBZL involves the use of case scenarios simulated in virtual wards to facilitate student learning and assessment and elicit their discussion on Zoom platform. Case scenarios are developed by a research assistant (nurse) and corresponding instructors in the School of Nursing. These scenarios are simulated in our virtual wards and delivered online using Zoom. After students' discussion, their individual commands (clinical decisions) are executed in the virtual ward. Students then know the consequence of their decisions in terms of the clinical responses of the simulated manikins. The outcomes are evaluated using a pretest post-test design and a historical control by assessment score, Student Engagement Questionnaire, and qualitative individual interviews.Preliminary findings will be reported and discussed in the symposium.

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Online Venue
Room B

Areas of Interest
Online Teaching II

The Video Conference System Facilitates Synchronous Teaching and Learning in

Anatomy Education

Authors

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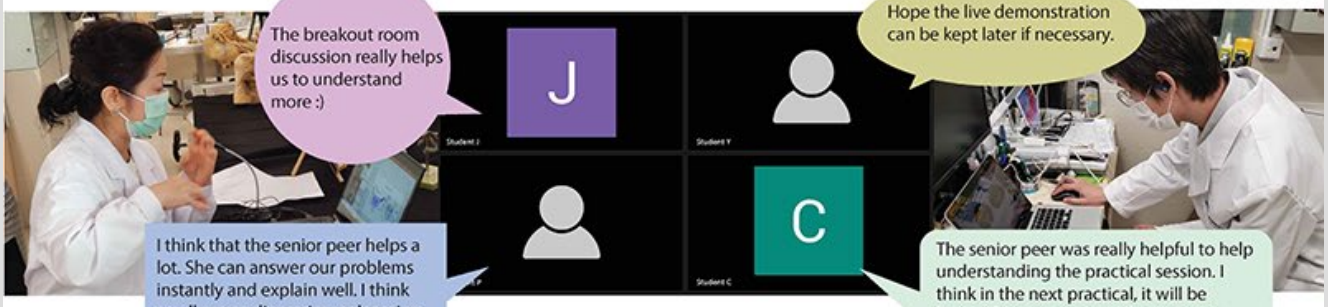
Background

Anatomy, a subject requires hands-on practicum, is unprecedentedly challenged by the restriction of face-to-face teaching in light of the pandemic. The Video conferencing system (VCS), such as the CUHK's adopted Zoom platform, is a real-time network connecting remote participants from different locations for interactive communication. It is a good alternative for subjects that requires didactic lectures only but might not be a realistic option for anatomy teaching and learning.

Objectives

This presentation describes 1) the challenges in modifying teaching materials that suit for online medium and 2) a teaching strategy in inviting senior peers from medicine (MBChB) and biomedical sciences programs to join the session with junior students from the biomedical engineering and pharmacy programs for discussion of the potential clinical relevance with their learning in anatomical structures.

Student Voices After the Zoom Practical

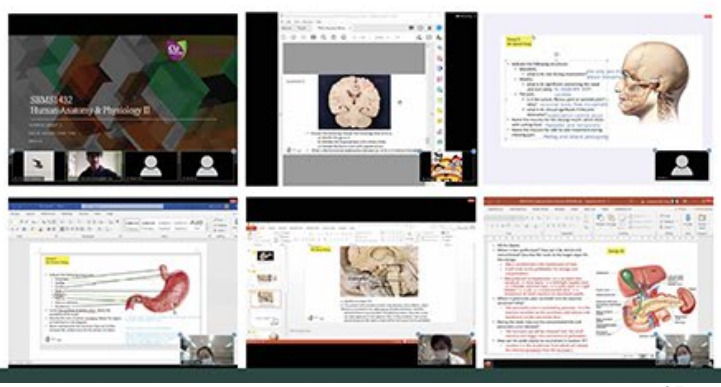


Discussions

Our experience and students' feedback showed that stakeholders overcome the limitation with some concerns. Compared with face-to-face teaching, the demand for teaching preparation for online is neither easy nor light but challenging at another escalated level. It requires a multiple-disciplinary effort in preparing video shooting ahead of the real-time class. On-sites challenges were encountered, including spatial examination of plantinated specimens, didactic interpretation of the anatomical structures and the clinical significance concerned about the structures.

Take Home Message

As this is the first time to run the practical zoom activity, there still have rooms for the improvements. Maybe teacher-in charge should not just one-way to conduct the contents of the learning material; students should do participate the discussion interactively; and more importantly, the internet connection should be stable.



P37: The Video Conference System Facilitates Synchronous Teaching and Learning in Anatomy Education

Presented by
Dr. Florence Mei Kuen TANG, Division of Education, School of Biomedical Sciences, The Chinese University of Hong Kong
Dr. Wai Kai WONG, School of Biomedical Sciences, The Chinese University of Hong Kong
Dr. Olivia Miu Yung NGAN, CUHK Center for Bioethics, The Chinese University of Hong Kong
Mr. Ray Mau Fung LEE, Information and Technology Services Center, The Chinese University of Hong Kong
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Mr. Fredrick Wai To CHOI, School of Biomedical Sciences, The Chinese University of Hong Kong
Miss Yanny Wing Yan WONG, Faculty of Medicine, The Chinese University of Hong Kong
Mr. Justin Chak Ting CHEUNG, School of Biomedical Sciences, The Chinese University of Hong Kong

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This presentation describes 1) the challenges in modifying teaching materials that suit for online medium and 2) a teaching strategy in inviting senior peers from medicine (MBChB) and biomedical sciences programs to join the session with junior students from the biomedical engineering and pharmacy programs for discussion of the potential clinical relevance with their learning in anatomical structures.

Our experience and students' feedbacks showed that stakeholders overcome the limitation with some concerns. Compared with face-to-face teaching, the demand for teaching preparation for online is neither easy nor light but challenging at another escalated level. It requires a multiple-disciplinary effort in preparing video shooting ahead of the real-time class. On-sites challenges were encountered, including spatial examination of plantinated specimens, didactic interpretation of the anatomical structures, the discussion of clinical significance related to the structure and stability of the internet connection. Regarding this pilot study, there still have rooms for the improvements.

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Online Venue
Room B

Areas of Interest
Online Teaching II

Teaching and Learning with Zoom: An Exploratory Study/ L. MARAFA, Z. WANG, C. S. CHAN

Introduction:

The study primarily focuses on the use of Zoom as a LMS to engage students in the teaching and learning context. Given that the university adopted the online teaching and learning using the Zoom platform as a stopgap initiative following the covid pandemic, how does it affect students' performance? The courses started on a traditional face-to-face format and subsequently moved into the online format. How effective were the online practices in teaching and learning? As an exploratory investigation, the objective is to investigate how the university can promote the community of learners in online platform like Zoom. Specifically, the study identified the perceptions, experiences, and attitudes of the students who participated in the courses.

Methodology:

An online questionnaire survey was conducted using a 6-point Likert scale on students that took three courses that were first started on face-to-face basis and switched to online format using Zoom. Questions were asked to identify what the students like or dislike in the online learning experiences. Open-ended questions were also asked to provide free flow responses without the constraints of a choice on scale.

Results:

Profiles of respondents:

Solid sample size: N = 146
Response rate: 24%

Table. Profiles of respondents.

	Frequency	Percent
Education level:		
Undergraduate	20	57.1
Postgraduate	15	42.9
Course type:		
UGE	14	40
Major	22	62.9
Elective	17	48.6
Gender:		
Female	30	85.7
Male	5	14.3

Overall satisfaction: Mann-Whitney U Test

Overall, are you satisfied with the learning experience on Zoom? (1 = highly unsatisfied; 6 = highly satisfied)

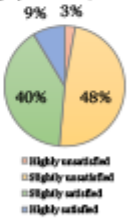


Figure. Pie chart of percentage in satisfaction level.

Zoom learning vs. Gender

Table. Median of the statement with significant differences.

Statements	Median			
	Female	Male	Mann-Whitney U	P
"I spent more time working on this course than my other courses"	4	2	24	.014

Zoom learning vs. Education level

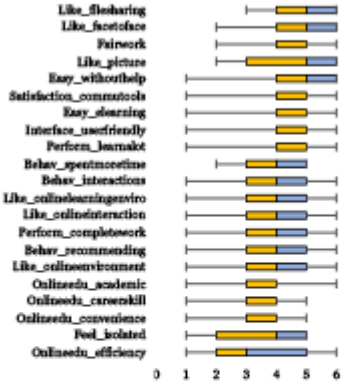
Table. Medians of statements with significant differences.

Statements	Median			
	Undergraduate	Postgraduate	Mann-Whitney U	P
"I spent more time working on this course than my other courses"	3.5	5	233	.014
"I would rather meet my instructors and classmates face-to-face rather than on Zoom"	5	6	253.5	.000
"I feel isolated and lonely as a result of the Zoom class"	2	4	237	.003
"Online education would allow me to do more work in less time"	4	3	74	.010

Students' experience of learning on Zoom:

Do you agree with the following statements?
(1 = highly disagree; 6 = highly agree)

- Students **agree** that they generally like the functions of zoom in their learning, while they still expect to meet with instructors and classmates face-to-face rather than on zoom.
- Students **slightly disagree** that online education are efficient.



Partial Confirmatory Factor Analysis (PCFA):

For the 21 agreement measures, **Cronbach's Alpha coefficient = .874**, indicating good internal consistency

Bartlett's test of Sphericity (χ 2 (210) = 556.297, p<0.001)

Kaiser-Meyer-Olkin measure of sampling adequacy (KMO = 0.658)

A series of factor analysis were conducted which indicated that **four factors** gave the most interpretable solution

An **Oblimin rotation** was performed since factors were expected to be correlated, resulting in a pattern matrix.

Four factors obtained are:

Factor 1: Preference of online education
Factor 2: Convenience
Factor 3: Functionality
Factor 4: Learning outcomes

67.726% of variance were explained by the four factors

Pattern Matrix[a]

	Factor			
	1	2	3	4
Onlineedu_convenience	1.063			
Onlineedu_efficiency	.782			
Onlineedu_academic	.568			
Onlineedu_careerskill	.539			
Easy_elearning		.899		
Easy_withouthelp		.838		
Like_onlinelearningenvironment			.816	
Like_onlineinteraction			.736	
Behav_recommending			.656	
Like_onlineenvironment			.612	
Like_filesharing			.597	
Feel_isolated			-.418	
Interface_userfriendly			.412	
Satisfaction_communtools				
Perform_completework				
Perform_learnalot				.885
Fairwork				.743
Behav_spentmoretime				.538
Like_facetoface	-.488			-.484
Behav_interactions				.482
Like_picture				

Extraction Method: Maximum Likelihood.
Rotation Method: Oblimin with Kaiser Normalization.
a. Rotation converged in 13 iterations.

Table. Fit indices for PCFA.

Fit index	Results	Acceptable Threshold Levels
NFI	0.891052507	>0.9 (Steiger, 2007)
CFI	0.827235794	>0.95 (Hooper, Coughlan, & Mullen, 2008)
TLI	0.891405356	>0.95 (Hooper, Coughlan, & Mullen, 2008)
RMSEA	2.7355037	<0.06 (Hu & Bentler, 1999)
SRMR	0.074485285	<0.08 (Hu & Bentler, 1999)

Preliminary summary and implications:

- Students generally like the functions of zoom in learning experience, while they still cherish face-to-face format
- Female students tended to feel more isolated as a result of Zoom than male students
- PGS spent more time, are more isolated, and felt less efficient in Zoom learning
- Students slightly disagree that online education is efficient
- Further research is needed with a larger sample size and CFA can be conducted to understand factors and overall satisfaction of learning.

P38: Teaching and Learning with Zoom: An Exploratory Study

Presented by
Prof. Lawal Mohammed MARAFA, Department of Geography and Resource Management, The Chinese University of Hong Kong

Abstract
The CUHK commenced the online teaching and learning using the zoom platform as a stopgap initiative as a result of the Covid-19 pandemic. The university had earlier invested heavily on ICT in teaching and learning and have been involved in several Learning Management Systems (LMS) over the years. Such systems include the WebCT, Moodle and Blackboard as pseudo online/interactive platforms and have successfully developed the Ureply platform to enhance teaching and learning. The LMS along with the introduction of zoom, provide opportunities for communication, content delivery and assessment.
Until now, the university has perfected the use of the LMS that exposes students and instructors to the role of ICT as an elearning platform. The challenge was on how can the university promote a community of learners in an online platform like zoom? The benefits of a LMS that promotes elearning is the ability of learners and instructors to interact by chat, video and others to establish an effective process in teaching and learning. The study primarily focus on the use of zoom to engage students, deliver contents and materials and subsequently assess performance of students according to course(s) requirements. Three courses are used in this preliminary investigation. Given that the shift to the zoom platform was effected after classes were conducted on the traditional face-to-face format, how does it affect the student's performance? How effective were the online practices in teaching and learning? What are some examples of effective teaching and learning practices? The study presents an exploratory investigation designed to identify some advantages and disadvantages of teaching and learning with zoom essentially from the perspectives of students.

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Online Venue
Room B

Areas of Interest
Online Teaching II

香港中文大學
The Chinese University of Hong Kong

STUDENT FEEDBACK ON ONLINE LEARNING:
RESULTS FROM A UNIVERSITY-WIDE SURVEY

Background

As a response to the COVID-19 pandemic, the CUHK switched to online teaching since mid-February 2020. Zoom, a cloud platform for teleconference, has been used by the university for conducting synchronous online teaching. This poster highlights key findings from the university-wide student experience survey conducted during the first week of the transition to online learning.

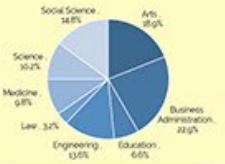
Respondent profile

(The data collection period of the survey was 19 to 22 February 2020. An online survey link was sent to all current students by mass email. A total of 1,996 responses was received)

PROGRAMME OF STUDY

Most of the student respondents were undergraduates (UG) (77.0%), followed by taught postgraduates (TPg) (18.6%) and research postgraduates (4.4%) (RPg).

FACULTY

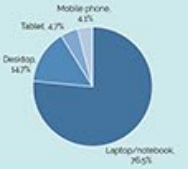


Students from all eight Faculties were represented. Faculty of Business Administration was the biggest group (22.9%), while the Faulty of Law was the smallest group (3.2%).

LOCATION

Most of the respondents were from Hong Kong (82.2%), followed by Mainland China (10.8%), and the others (including Asia, Europe, and North America) (7.0%).

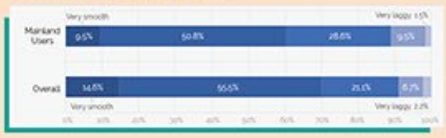
DEVICE USED



Laptop/notebook computer (76.5%) was the most used device, followed by desktop computer (14.7%), tablet (4.7%), and mobile phone (4.1%).

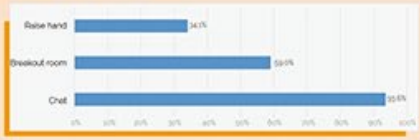
User Experience

CONNECTION SPEED:



Most students reported that the speed of the Zoom platform as "Very smooth" (14.6%) or "Quite smooth" (55.5%). About a fifth said the speed was "acceptable" (21.1%). Mainland users reported significantly lower connection speed.

FUNCTIONS USED:



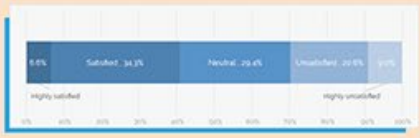
The most popular Zoom function was "Chat", which was used by 93.6% of the respondents, followed by "breakout room" (59.0%) and "raise hand" (34.1%).

EFFECTIVENESS / ATTENTION & PARTICIPATION:

Effectiveness:
About one-third (34.2%) of the respondents agreed that Zoom has enabled them to learn effectively. Close to half (43.5%) reported "No", and 22.6% reported "No view".

Attention & Participation:
More than half (59.8%) reported there was no increase in the level of attention and participation when compared with traditional classroom, while only about a quarter (23.9%) reported such increase, and 16.3% has no view.

SATISFACTION



About 40% of respondents were "highly satisfied" or "satisfied" with the use of Zoom in online learning. About 30% were "unsatisfied" or "highly unsatisfied". Another 29.4% were neutral.

Qualitative comments

GOOD ASPECTS

More comfortable to raise questions

I was shy to ask questions during face-to-face lectures, and now I could send a private chat to professors and receive immediate responses from them

Clear view

Can see what professor writing more clearly compared to face-to-face class when I am sitting at the back

Save Travel Time

Save travelling time, can reach similar learning outcomes compared to face to face teaching

Maintain Interaction

Maintains meaningful teaching in this difficult time. While allowing real time interactions similar to face to face teaching in campus

(A total of 1,210 comments were received. Close to half (45%) of the comments were related to learning incentives (e.g., saving travel time, increased flexibility), followed by learning environment (30%), learning behaviour (13%) and technical features (12%).)

DIFFICULTIES & SUGGESTIONS

Technical problems

Zoom is the incompatible software for my laptop. Thus, my laptop turns black or lags a lot from time to time when I use Zoom

Problems always arise, and I don't know how to solve it

Network is not stable

Issues with students' learning environment

My flat is small; I cannot freely express my opinion especially when the content is sensitive

Someone broke into my room during lessons

Hard to use

It is inconvenient to jot down notes using the same device at the same time

Teachers overrunning classes

Some teachers tend to overrun as no one is using the "classroom" or "lecture room" in the coming time but I have to attend another lesson

Time difference

Because the university decided that all classes would occur in their scheduled time as before, I now have to wake up 3:30 AM to attend some classes

(A total of 1,819 comments were received. Most (58%) of the difficulties reported were technical in nature.About a third (34%) were related to pedagogical problems (e.g., reduced interaction and attention). Other issues such as excessive screen time and library support were also mentioned.)

P39: Student Feedback on Online Learning: Results from a University-wide Survey

Presented by
Mr. Alan TSE, Centre for Learning Enhancement And Research, The Chinese University of Hong Kong
Ms. Carmen LAU, Centre for Learning Enhancement And Research, The Chinese University of Hong Kong

Abstract
As a response to the COVID-19 pandemic, the CUHK switched to online teaching since mid- February 2020. Zoom, a cloud platform for teleconference, has been used by the university for conducting synchronous online teaching. This poster highlights some key findings from the university-wide student experience survey conducted during the first week of the transition to online learning.

A total of 1996 responses from students from all eight faculties have been collected. In terms of Zoom functions used, "chat" was the most popular Zoom function, followed by "breakout room" and "raise hand".

When it comes to the pedagogical impacts of online learning, student feedback was mixed. More than half (59.8%) reported there was no increase in the level of attention and participation when compared with traditional classroom. About one-third (34.2%) of the respondents agreed that Zoom has enabled them to learn effectively. Close to half (43.5%) reported "No". About 40% of respondents were "highly satisfied" or "satisfied" with the use of Zoom in online learning, compared with about 30% who were "unsatisfied" or "highly unsatisfied".

Respondents were invited to comment on what the good aspects of online learning, as well as the difficulties they faced. Close to half (45%) of the positive comments were related to learning incentives (e.g., saving travel time, increased flexibility), whereas most (58%) of the difficulties reported were technical in nature. Results from this survey provide valuable insights on the strength as well as rooms for improvement in online learning.

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Online Venue
Room B

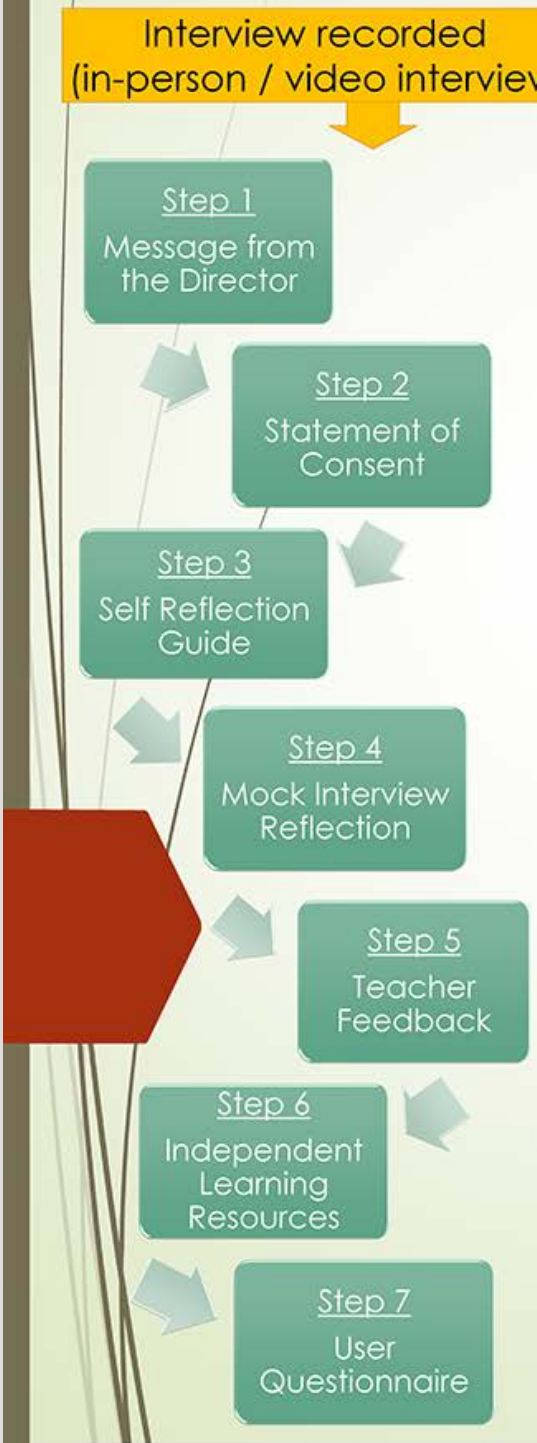
Areas of Interest
Online Teaching II

PEDAGOGICAL ADVANCEMENT

Introducing an Online Learning and Reflection Platform: The Interview Skills Development System (ISDS)

Sharon Wong, The Independent Learning Centre (ILC)

The ISDS is an online platform developed by the ILC for the Interview Practice and Self Reflection, the final element of our Job Preparation Series (JPS). It aims at helping individual students further develop their interview skills by putting theory into practice after they have attended at least one of our JPS workshops.



Results

From April 2015 to May 2019, 66 students (Group 27-56) took part in the ISDS (English).

Group	Personal Reflection (Accepted)	Video Clips (Accepted)	Personal Reflection (Complete)	User Comments (Complete)
G27-G56	84.8%	77.3%	48.5%	50.0%

Table 1 Percentage of Student Participation and Accepted Statement of Consent

	Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree	Incomplete
Q1. Watching my mock interview performance via video is useful in helping me prepare for future interviews.	0.0%	1.5%	0.0%	3.0%	21.2%	**24.2%**	50.0%
Q2. Writing an evaluation for my mock interview performance by using a checklist is useful in helping me prepare for future interviews.	0.0%	1.5%	0.0%	7.6%	**25.8%**	15.2%	50.0%
Q3. Reading the teacher's comments on my mock interview performance is useful in helping me prepare for future interviews.	0.0%	0.0%	1.5%	3.0%	12.1%	**33.3%**	50.0%
Q4. After the whole activity, I am more aware of my personal strengths and weaknesses during interviews.	0.0%	1.5%	0.0%	3.0%	**22.7%**	**22.7%**	50.0%
Q5. The web interface is user-friendly.	0.0%	1.5%	3.0%	9.1%	15.2%	**21.2%**	50.0%
Q6. The learning resources for further self-study that are recommended by the teacher are useful.	0.0%	0.0%	0.0%	6.1%	**22.7%**	21.2%	50.0%
Q7. I would recommend this activity to my peers.	0.0%	0.0%	0.0%	1.5%	**25.8%**	22.7%	50.0%

Table 2 Questionnaire Result: User Comments

Thirty-three (50%) participants completed the online questionnaire survey about the user comments of the ISDS (English). Most answers to the questions are "agree" and "strongly agree".

Please visit: https://www.ilc.cuhk.edu.hk/workshop/ISDS/

The Independent Learning Centre 39438733 ilc-counsel@cuhk.edu.hk

P23: Introducing an Online Learning and Reflection Platform: The Interview Skills Development System

Presented by
Ms. Sharon Sin Ying WONG, Independent Learning Centre, The Chinese University of Hong Kong

Abstract
There is some discrepancy between what one knows and what one can do. For students having learned how they should present themselves in a job interview, it does not necessarily mean that they can perform well. The acquisition process involves trials and errors. In order to better prepare CUHK students for job interviews and to increase their success rate even for the first few interviews, the Independent Learning Centre (ILC) has developed an online platform namely the Interview Skills Development System (ISDS) for students to put knowledge into practice. Upon coming for a short "mock" interview, students will be able to view their video-recording clip on the platform (login required) and reflect on their own performance. They will then be able to see teacher feedback regarding their content, language, non-verbal communication skills and attire. Given individualized further learning resources, students will also set goals on how to improve their interview performance in the future. The aim of this ISDS platform is to bridge the gap between what students know and what they can do in job interviews, through offering a meaningful practice and reflection opportunity. Before students come for the "mock" interview, they are required to attend at least one of the ILC's English Job Preparation Series workshops. This completes the entire knowledge to practice cycle. In this presentation, we will share some features of the platform, how students could benefit from this independent learning activity and some feedback from the 170 students who came to the "mock" interviews.

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Online Venue
Room A

Areas of Interest
Pedagogical Advancement I

PARTICIPATORY LEARNING: THE CASE OF PING CHE IN CITY DEVELOPMENT IN HONG KONG

CHAN Yin Ha, Vivian [1], WONG Ka Po [2]
[1,2] Chinese University of Hong Kong (Hong Kong)

The Study

Examines the effectiveness and challenges of a participatory community learning project "CUHK in Communities"

Methodology

Participatory observation, questionnaires, reflective journals & focus groups

Project features

- Non-credit bearing
- Participatory learning in community

Project aims

- To facilitate students to understand deeper the building of Hong Kong communities through engaging community research
- To test the knowledge they learn in class

2018-19 project

Participants : 21 students from the Faculties of Arts & Social Sciences
Duration : 9 months, meeting every two weeks
Theme : Community building at Ping Che, a rural area in the New Territories in Hong Kong which has been under severe threats of city development in recent years

Project learning activities

1. Thematic tours
2. On-site sharing talks
3. Cultural events (Fire Dragon Dance, Community Day)
4. Publication *Ping Che Seven Years*

The Results

Understanding concepts

Understand deeper some major concepts:
Land justice, civic participation, complex social dynamics in community building, and agency of change

Thematic tour

On-site sharing talk

Participation in communities

Students consider keeping a long-term relationship with Ping Che and other communities
More cautious about the power relations of researchers and informants, and the dynamics between insiders and outsiders

Impacts on studies, internships and abilities

Ping Che as a case study:
Apply the theoretical frameworks and concepts such as power and resistance taught in their majors to analyse Ping Che in their term papers

Insights for internships:
Pay more attention to environmental and development issues at work

Positive attitude towards affection:
Students consider affection to the place a key learning outcome which enables them to participate more intensely

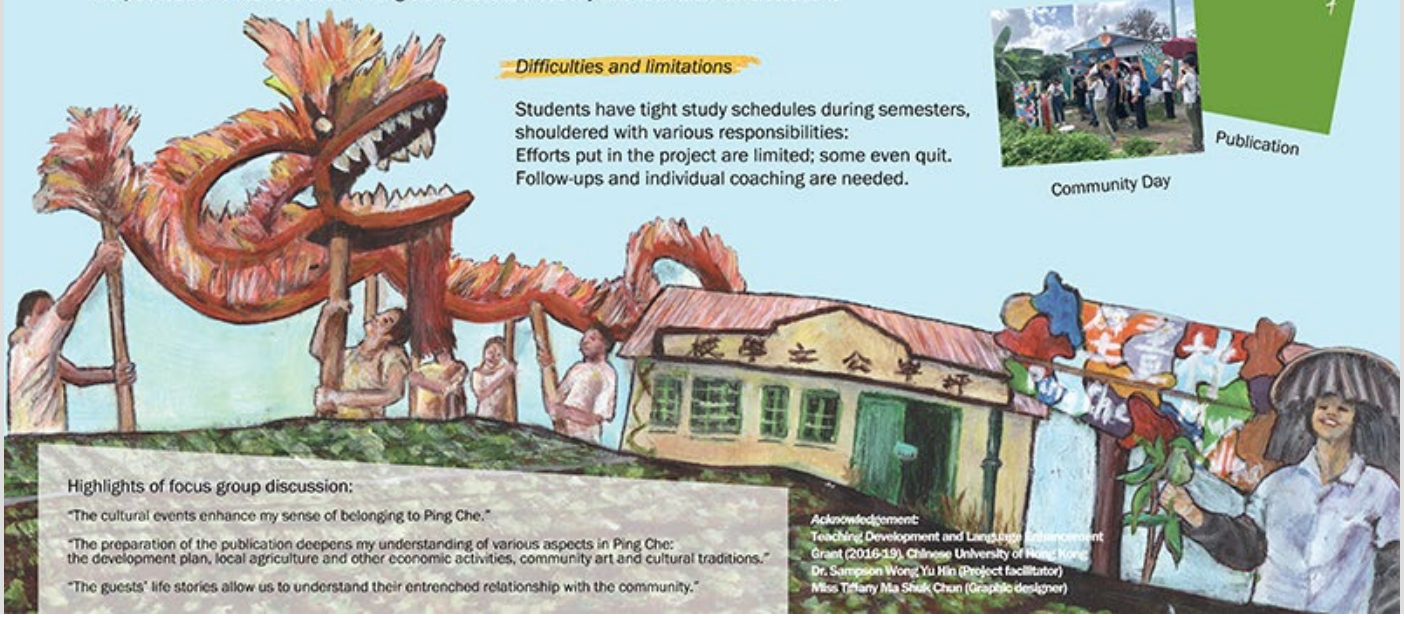
Other abilities:
The publication enhances their writing skills, boosts creativity and facilitates collaborations

Publication

Community Day

Difficulties and limitations

Students have tight study schedules during semesters, shouldered with various responsibilities:
Efforts put in the project are limited; some even quit.
Follow-ups and individual coaching are needed.



Highlights of focus group discussion:

"The cultural events enhance my sense of belonging to Ping Che."

"The preparation of the publication deepens my understanding of various aspects in Ping Che: the development plan, local agriculture and other economic activities, community art and cultural traditions."

"The guests' life stories allow us to understand their entrenched relationship with the community."

Acknowledgement:
Teaching Development and Language Enhancement Grant (2016-19), Chinese University of Hong Kong
Dr. Sampson Wong Yu Hin (Project facilitator)
Miss Tiffany Ma Shuk Chun (Graphic designer)

P24: Participatory Learning: The Case of Ping Che (坪輋) in City Development in Hong Kong

Presented by
Dr. Yin Ha CHAN , Independent Learning Centre, The Chinese University of Hong Kong
Ms. Ka Po WONG, Independent Learning Centre, The Chinese University of Hong Kong

Abstract
Substantial efforts and resources have been put to encourage creative teaching and learning in recent years in many places in the world. Various kinds of funding have been allocated to projects promoting or studying experiential learning, participatory learning, internship and service programmes, etc. These projects not only aim at complementing formal curriculums but also broadening students' horizons. However, the effectiveness of such experiential learning is not easy to measure. Various evaluation methods have to be applied to fully assess the achievements and difficulties of these learning experience.

This study examines the effectiveness and challenges of a participatory community learning project at the Chinese University of Hong Kong. Twenty-one university students took part in a Teaching Development and Language Enhancement Grant (TDLEG) project "CUHK in Communities" in September 2018. They spent nine months in Ping Che (坪輋), a rural area in the New Territories in Hong Kong, doing field visits in every two weeks and participating festive activities with locals to understand the intertwined facets of the people's living under the threats of city development.

Ping Che is an exemplary case to rethink the legitimacy of the global trend of urbanisation under developmentalism. Through on-site participatory learning, students gained first-hand observation and opportunities to test some of the core concepts they learn at university: the pursuit of good life, land justice, civil participation, etc.

In order to effectively evaluate the achievements of and the difficulties faced by students, participatory observation, questionnaires, reflective journals and focus groups were used.

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Online Venue
Room A

Areas of Interest
Pedagogical Advancement I

Developing Effective Pedagogical Practices to Cultivate Students' Critical Thinking at CUHK

Weili Zhao, Curriculum and Instruction, Faculty of Education, CUHK

Background: Translating Critical Thinking into Classroom

How can we reach a shared understanding of critical thinking as a concept and practice to build a more cohesive community of practice (CoP)

For teachers, how to pedagogically cultivate and evaluate the invisible and crucial cognitive thinking in our teaching and learning?

Critical thinking is the core competency of the 21st century has become one of the most desirable learning outcomes globally and at CUHK

Searching for Effective Pedagogical Practices

We investigate how, and with what challenges, 7 teachers from C&I, Faculty of Education infuse, cultivate, and evaluate students' critical thinking in their lesson plan design, pedagogical activities selection, teaching and evaluation.

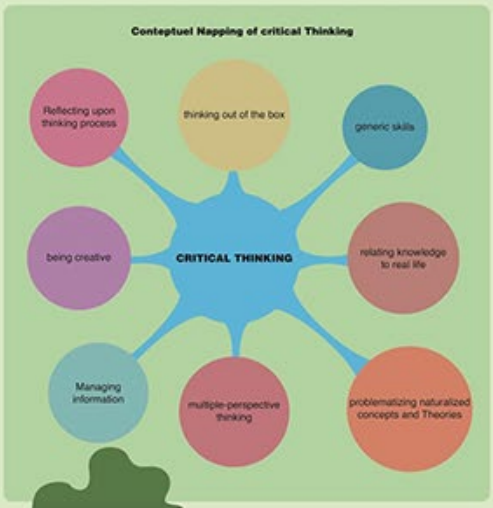
In-class observation

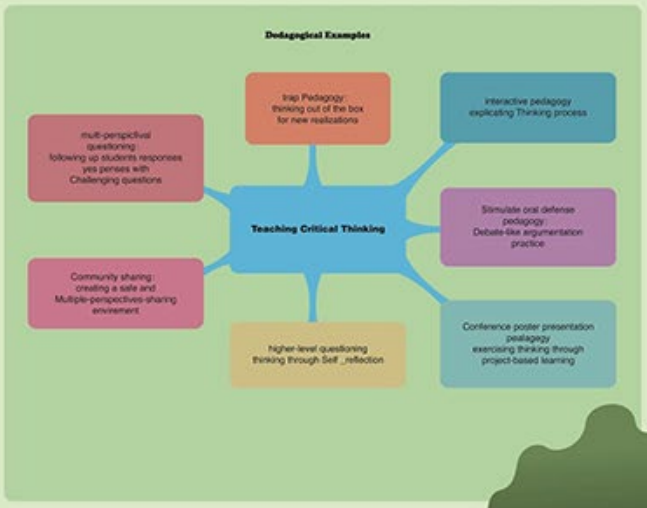
Teaching materials sharing

Interview

Follow-up interview

Conceptual Mappings of Critical Thinking





Acknowledgements:
This project is granted by Teaching Development and Language Enhancement (TDLEG) from the Chinese University of Hong Kong (Project Code: 4170543). We appreciate their help and also supportive participation of faculty members.

P25: Developing Effective Pedagogical Practices to Cultivate Students' Critical Thinking at CUHK

Presented by
Prof. Weili ZHAO, Department of Curriculum and Instruction, The Chinese University of Hong Kong
Ms. Min LIN, Department of Curriculum and Instruction, The Chinese University of Hong Kong
Ms. Yundan ZHENG, Department of Curriculum and Instruction, The Chinese University of Hong Kong

Abstract
CUHK aims to enhance students' global competitiveness, say, critical thinking, by internationalizing its curriculum such that it is globally oriented, locally grounded, and culturally inclusive. Combining the University's Aligned Curriculum Model, its conceptual framework on Internationalization of Curriculum (IoC), and Paul and Elder's (2008) Critical Thinking table, this project is to identify-develop some effective critical thinking pedagogical practices with the teachers in the Department of Curriculum and Instruction, hoping to enhance a critical pedagogical consciousness among colleagues. Between January 2018 – January 2019, the project has interviewed seven colleagues on their viewpoints of critical thinking, observed their teaching, and identified seven critical thinking pedagogical practices. Research output includes a critical thinking vocabulary, a ppt report of teachers' pedagogical practices on critical thinking cultivation, and a summative video-clip to introduce the pedagogies, all to be shared with students and colleagues through Blackboard and other university platforms.

This research project finds all the seven teachers treat critical thinking as a higher-order skill that needs to be incorporated into their teaching at CUHK as a gesture to internationalize their curriculum and teaching. However, they feel the concept of critical thinking is broad and vague, and they usually don't explicitly share with their students how the class activities are designed to cultivate their critical thinking. It is thus suggested that the University runs a series of seminars on critical thinking as a generic and subject-specific skill and build a platform to share effective critical thinking pedagogies for teachers across campus.

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Room A

Areas of Interest
Pedagogical Advancement I

Case Teaching and Learning for Social Science and Public Policy Education

Dr. James K. WONG, Vivien Pong, Joanna Yu

Division of Social Science & Division of Public Policy, HKUST

Engaging students with experiential learning in social science and public policy

The case method is a student-centered pedagogy that emphasizes in-depth and active learning, helping students make meaningful connections between textbook knowledge and real-life scenarios. Students learn how to analyze and explain social phenomena and recommend solutions to resolve decision dilemmas in public policy.

Milestones

Case Development Program

In 2017-18, a team of professional case developers took on the challenge to create the first batch of teaching cases under the guidance of faculty advisors. These cases covered a variety of social science or public policy issues of Hong Kong. Selected cases were used in five undergraduate and postgraduate classes as well as a case competition.

Class Activities

The following activities were used to facilitate the study of the cases:

- Case presentations
- Poster presentations
- Group discussions
- Debates

HKUST Inter-University Public Policy Case Competition 2019

Thirty-eight student teams from 7 higher education institutions competed for the championship. They analyzed policy cases, devised solutions for resolving policy dilemmas, and presented recommendations to a panel of policy experts.

Survey Feedback

Project Outcomes	*Overall Satisfaction with Learning through Case Study Method / Case Competition*
Case teaching in five undergraduate and postgraduate classes	**4.35** out of 5 (n=105)
HKUST Inter-University Public Policy Case Competition 2019	**4.1** out of 5 (n=67)

Project members:
Prof. Xun WU, Prof. Kira MATUS, Prof. Gerald R. PATCHELL, Prof. Naubahar SHARIF

Acknowledgement:
This project is funded by the Teaching Development Grant (099H) and supported by the Center for Education Innovation of HKUST

U06: Case Teaching and Learning for Social Science and Public Policy

Presented by
Ms. Joanna YU, Division of Social Science, The Hong Kong University of Science and Technology
Ms. Vivien PONG, Division of Social Science, The Hong Kong University of Science and Technology
Prof. James K. WONG, Division of Social Science & Division of Public Policy, The Hong Kong University of Science and Tec

Abstract
Case teaching and learning provides an excellent opportunity to engage students with experiential learning. While the case method is not a new pedagogy, its applications tend to be restricted to business, legal and medical education. At the same time, case studies focusing on Hong Kong are in short supply in the textbook market. While it is easier to motivate students to learn using local case studies, instructors may find it costly to create them from scratch.

This poster aims to report the observations from a Teaching Development Grant project conducted at the Hong Kong University of Science and Technology in 2018-19 – "Case Teaching and Learning for Social Science and Public Policy Education" (099H). It demonstrates: (1) how local case studies were developed; (2) how they were used for classroom teaching and outside-classroom learning; and (3) how students perceived the case learning experience.

We conclude that, while there is room for improvement in its implementation, the case pedagogy creates a largely positive impact on students for learning social science and public policy at both undergraduate and postgraduate levels.

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Online Venue
Room A

Areas of Interest
Pedagogical Advancement I

The two-edged sword of gaming: The benefit of gaming in territory education

Mok, Edwin K.M.
Department of Finance, Chinese University of Hong Kong

Start

- Gamification is the use of game elements in non-game contexts (Deterding et al., 2011.)
- 71% studies show positive learning results from the use of gamification (Majuri, 2018.) 12

Wanna know some examples of gamification?

No

Yes

Who wants to be a Millionaire

PaGamO

8

成語偷菜

codeSpark Academy

10

- Responses form 180 students form FOUR classes. 8
- In contrast to their responses in exercise format, 19% of students choose risk taking even the expected value is negative.
- Results helps students to learn how behavioural bias affect investing decision.

Wanna know about the pros or cons of gamification?

Cons

Pros

Cons 10

1. Effects are limited in certain types of questions, like coding and proof.
2. Time-effectiveness is doubtful, the problem is severe in territory education with course duration of only 13 weeks.
3. Resistance from students on the reward system, as it is similar to attendance.

Wanna know about the bright side?

Yes

No

Yes

Pros 6

1. Strengthen students' understanding on subject-knowledge, by putting themselves into other people's shoes.
2. Foster feelings of enthusiasm towards the subject.
3. Keep students' attention in the class, and increase their engagement.

Wanna know about the cons?

No

Adding Game Elements to class[1,3,4,5,7]

1. Story (Fantasy)
2. Choice
3. Rewards 10
4. Rapid Feedback
5. Interaction

Wanna know more about the meanings of game elements?

No

Yes

8

12

1. Story: Narrative can helps students to process information and provide a meaning to their studies.
2. Choice: Students feel something is at risk when they have to make a decision. It can increase their attention on the class and engagement with the subject.
3. Rewards: Variable rewards are scheduled into the learning experience to provide extrinsic motivation for students to solve the problem at hand.
4. Rapid Feedback: When the time between action and feedback is short, students are more excited to learn and participate.
5. Interaction: Interaction among students leads to greater learning satisfaction.

6

6 **Example in the class**

The expected value (EV) is calculated by multiplying each of the possible outcomes by the likelihood each outcome will occur and then summing all of those values.

Invest: $2 Success: +$3 Fail: $0

$$EV = 0.5(3) + 0.5(0) = 1.5$$

98%+ students know that they should not invest, as EV is less than their investment.

8

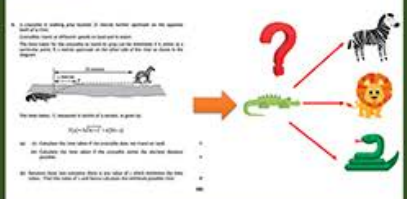
Application 12

Examples

What is the greatest dynasty in the past? 6

⇒Paraphrase to:

⇒Which dynasty in the past would you most like to live in, and why?



If you are interested in gamification in learning, please contact me at:

- edwinmok@cuhk.edu.hk
- 9839-2947 (WhatsApp) 100

Yes

TAKEAWAYS

1. Get started with two to three activities. 20
2. Make the scenario simple.
3. Give a story: Students respond favourably to questions related to the real world.
4. Foster interaction with students and among students.

Wanna know my contact info?

No

Thank you 8

Don't forget to find out your performance based on the STARS you get!

Excellent: 100+ Very Good: 76 – 100 Good: 51 – 75 Fair: 26 – 50 Poor: 0 – 25

Finish

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P26: The Two-edged Sword of Gaming: The Benefit of Gaming in Territory Education

Presented by
Dr. Ka Ming MOK, Department of Finance, The Chinese University of Hong Kong

Abstract
Technology advancement makes gaming more addictive and easily to be played everywhere. It is unavoidable that today's teacher is much more difficult to get student attention. Looking on the bright side, researchers suggest that incorporating gaming elements in teaching can stimulate interests of students and inspire them to be more engaged in learning. However, gamification are far less employed in territory education than in primary and secondary education. The popularity of Candy Crush and Pokemon Go among adults and elderly has shown that territory education should not be an exception for gamification. The study aims at providing the experience of gamification and discussing the key takeaways for teachers and researchers.

In Finance, it is important for students to understand the difficulties in making decisions under uncertainty and realize how behavioral bias affect their decisions, but it is easier said than done. To simulate the situation of making decision under uncertainty, in-class interactive activities are employed in Finance classes. An excel file and a google form are used to facilitate the in-class activities.

Based on the experience from nine classes, this study summarizes three key takeaways that are useful for teachers from all disciplines: i) Gamification significantly increases students' sense of accomplishment, raising their interests in learning. ii) Gamification helps students to think from the participant, rather than form the view of an observer. iii) Setting with interaction element among students improves the learning experience and facilitates knowledge exchange.

View **Poster**
View **Video**

Online Venue
Room A

Areas of Interest
Pedagogical Advancement II

BLENDED AND EXPERIENTIAL LEARNING IN COMPUTERS AND SOCIETY

Chuck-jee Chau *chuckjee@cse.cuhk.edu.hk*
Department of Computer Science and Engineering

CSCI3250+3251

In 2018–19 Term 2, the "society" and "practicum" course pack returned to the CSE department from the faculty package, and we made some changes.

We aimed to motivate students to ***explore*** in relevant topics, and ignite the (self-)learning ambience by ***collaboration*** and ***class interaction***. There were also invited talks and industrial visits. Here we introduce the ***course project***, "A Short Intro to Everything in CSE".

LEARNING OUTCOMES

To nuture engineers who...

- employ critical thinking skills
- understand their position
- are able to explore, collaborate, and communicate

"A SHORT INTRODUCTION TO EVERYTHING IN CSE"

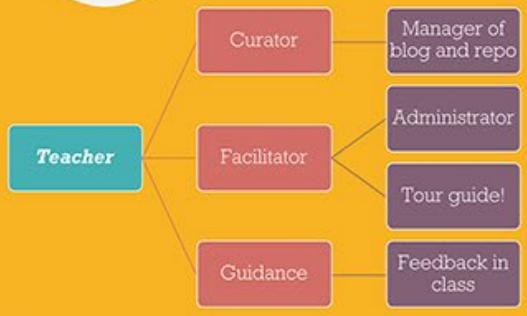
Broad coverage of ideas beneficial to CS/CE year 2 students

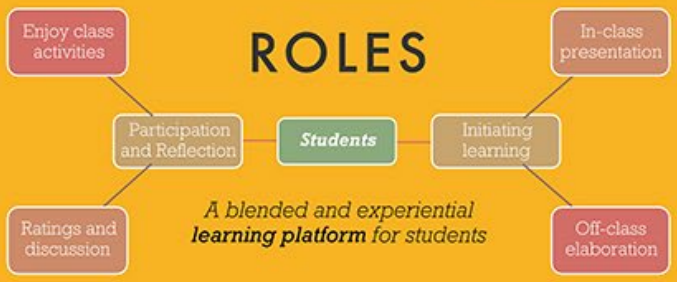
Group work (of 2 students)

- A presentation of 9 minutes
- Interaction with audience in presentation
- 1 MC quiz question based on presentation contents
- Presentation writeup of 600–1000 words

Individual work

- One article based on suggested topics or relevant ideas

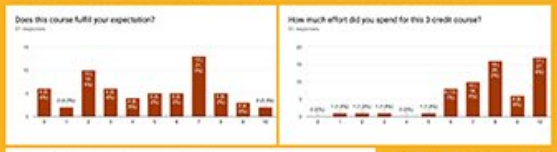


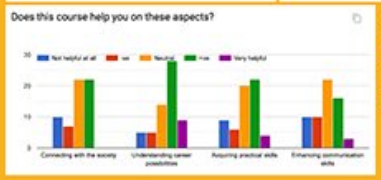


OTHER COURSE COMPONENTS

EXIT SURVEY

From a class of 175, ***66 responses*** were received





"High workload"
"Broad coverage"
"Interesting and useful"

STUDENTS' OUTPUT...

There could be issues in *uniformity*, *consistency*, *correctness*, ... yet students' works were always ***FULL OF surprises and inspiration***!

BREAK THE CLASSROOM!

THE CLASSROOM IS NEVER THE LIMITATION

P27: Blended and Experiential Learning in Computers and Society

Presented by
Dr. Chuck Jee CHAU, Department of Computer Science and Engineering, The Chinese University of Hong Kong

Abstract
The course CSCI3250/3251 (Computers and Society/Engineering Practicum) was offered to Computer Science and Computer Engineering students in 2018–19 Term 2 to replace the ENGG2601/2602 combination in previous years. Feedback from previous years indicated students being passive in learning by attending lectures and seminars, and writing a project proposal without needing to produce any output.

In CSCI3250+3251, we experimented with the idea of "Break the Classroom" to introduce active group efforts of students to study a unique and relevant topic and share to their classmates in class presentations, and to design interactive games to engage their audience. The topics spread a wide range from technical and practical experiences to alarming social issues on computers and technologies. Students were further encouraged to write up their ideas in blog articles with online collaboration and interaction. With industrial visits, seminars were also no longer limited to be on campus.

Through the process, the teacher became a curator and a facilitator who secures the platform for the easy and efficient exchange of thoughts. In such a collaborative and experiential environment, there were issues on uniformity, consistency, and correctness in student works. Nevertheless, students had positive response, especially in understanding career possibilities, and acquiring practical skills.

View **Poster**
View **Video**
View **Paper**

Online Venue
Room A

Areas of Interest
Pedagogical Advancement II

Teaching and Learning Innovation EXPO 2019/20

Faculty of Medicine
The Chinese University of Hong Kong

香港中文大學
The Chinese University of Hong Kong

E -management of Critically Sick General Surgical Patients

Prof. Kaori Futaba; Department of Surgery, Faculty of Medicine, The Chinese University of Hong Kong

Background

Management of critically sick, general surgical patients can be challenging. Doctors must assess the patient in a timely manner to decide on the most likely diagnosis to offer them prompt treatment to save lives.

Initial choice of treatment can be crucial in the management of critically ill patients.

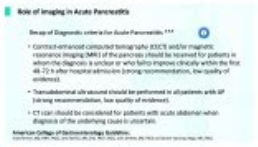
There are a wide range of investigations available to help doctors reach the correct diagnosis, however there are pros and cons and risks with each test offered and it can be difficult to decide on which investigation is the best one for your patient at that time.

Method

Exposure to the variety of emergency surgical conditions during General Surgical attachment of medical student is unpredictable and may be limited depending on the case mix availability.

The project objective was to produce an interactive learning platform to allow students to manage a critically sick e-patient to enhance student's deeper learning and promote higher order learning.

Three important classical emergency surgical scenarios: acutely painful leg, acute abdominal pain and gastrointestinal bleed were chosen. The interactive micromodules have been developed and accessed by final year medical students via CU Blackboard, to allow students to access this 24/7.



Summary

Relevant clinical images and video are imbedded into the micro-modules to improve medical students' understanding of different special investigations available.

Formative assessment on both case diagnosis and management plan are used in each case to test student's decision making.

Informative feedback provided for each choices of decision are welcomed by the students.

Discussion

Decision making is an important skill to master.

E-management of critical sick general surgical patient allows students to learn important elements of managing critically sick surgical patients but also allows them to appreciate the consequence of their decision without harming real patients.

Imagining: such as Magnetic resonance cholangiopancreatography

Procedure videos: such as Endoscopic retrograde cholangiopancreatography

Short narrated operative videos

MMCDG funded project

Members of the Project Team

- Professor Tony WC Mak (Division of Colorectal Surgery)
- Professor Simon SM Ng (Division of Colorectal Surgery)
- Professor Enders KW Ng (Division of Upper GI and Metabolic Surgery)
- Professor Paul BS Lai (Division of Hepatobiliary and Pancreatic Surgery)
- Professor James YW Lau (Chairman & Yao Ling Sun Professor of Surgery, Division of Vascular Surgery)
- Dr. Kitty Au-Yeung (Higher Surgical Trainee)
- Dr Kristy PT Fung (Basic Surgical Trainee)
- Dr Ruby Lau (Higher Surgical Trainee)
- Dr Sunny Cheung (Associate Consultant, Division of Hepatobiliary & Pancreatic Surgery)
- Dr Patricia Yih (Associate Consultant, Division of Vascular surgery)

Supported Team

- ITSC, CUHK
- Office of Medical Education, Faculty of Medicine

P28: E-management of Critically Sick General Surgical Patients

Presented by
Prof. Kaori FUTABA, Department of Surgery, The Chinese University of Hong Kong
Dr. Kristy PT FUNG, Department of Surgery, The Chinese University of Hong Kong
Dr. Kitty AU YEUNG, Department of Surgery, The Chinese University of Hong Kong
Dr. Ruby LAU, Department of Surgery, The Chinese University of Hong Kong
Dr. Sunny CHEUNG, Department of Surgery, The Chinese University of Hong Kong
Dr. Patricia YIH, Department of Surgery, The Chinese University of Hong Kong
Prof. Tony WC MAK, Department of Surgery, The Chinese University of Hong Kong
Prof. Simon SM NG, Department of Surgery, The Chinese University of Hong Kong
Prof. Enders KW Ng, Department of Surgery, The Chinese University of Hong Kong
Prof. BS LAI, Department of Surgery, The Chinese University of Hong Kong
Prof. James YW LAU, Department of Surgery, The Chinese University of Hong Kong

Abstract
Management of critically sick, general surgical patients can be challenging. Doctors must assess the patient in a timely manner to decide on the most likely diagnosis to offer them prompt treatment to save lives. Initial choice of treatment can be crucial in the management of critically ill patients. There are a wide range of investigations available to help doctors reach the correct diagnosis, however there are pros and cons and risks with each test offered and it can be difficult to decide on which investigation is the best one for your patient at that time. There is no one correct way to manage a sick general surgical patient. However, consequence of making a wrong choice may cost patient's life. Decision making is an important skill to master. Exposure to the variety of emergency surgical conditions during their General Surgical attachment is unpredictable and may be limited depending on the case mix availability.

The project objective was to produce an interactive learning platform to allow students to manage a critically sick e-patient to enhance student's deeper learning and promote higher order learning. We have included relevant clinical images and video to improve their understanding of different special investigations available. It allows students to learn important elements of managing critically sick surgical patients but also allows them to appreciate the consequence of their decision without harming real patients. We chose three important classical emergency surgical scenarios: acutely painful leg, acute abdominal pain and gastrointestinal bleed.

View **Poster**
View **Video**

Online Venue
Room A

Areas of Interest
Pedagogical Advancement II

Lingnan University 嶺南大學 香港 Hong Kong

Developing the 'Reacting to the Past' Teaching Methodology at Lingnan and in Asia

Abstract:

This project evaluates the potential of the "Reacting to the Past" (RTTP) method of game-based learning which is not well-known in Asia, and attempts to contribute to student achievement in the History Department and potentially in the broader university community. The RTTP methodology employs active role-playing, in which students assume the identities of historical figures and argue persuasively from these assumed perspectives. The Principal Project Supervisor (PPS) has trialed RTTP in her previous project, with very encouraging results: student participation and student critical and analytical capabilities were enhanced. These outcomes relate directly to History programme Intended Learning Outcomes (ILOs).

The current project expands upon the PPS's previous project and will unfold in several steps. First, History instructors and other interested Lingnan faculty will be trained in the RTTP methodology. The PPS and Co-supervisors will then pilot RTTP in selected History courses, collect data on student achievement in History ILOs. The project will culminate in a regional RTTP conference which will explore how game-based methods may contribute to history curricula and more broadly to undergraduate education at universities in Asia. At present, the project is progressing well. After fully implementing in history course(s), the useful elements have been applied to the Lingnan's new flagship Global Liberal Arts Programme. The PPS expects to incorporate the project findings into a module and to teach this module in a broad-based teaching conference for Asia in 2020.

■ Principal Project Supervisor

Professor CHOU, Grace Ai-ling
Department of History

■ Co-Supervisors
Professor LEMBERG Diana, Lucy, Department of History
Professor PIANCIOLA Niccolò, Department of History

U07: Developing the "Reacting to the Past" Teaching Methodology at Lingnan and in Asia

Presented by
Prof. Grace Ai-ling CHOU, Department of History, Lingnan University
Prof. Diana Lucy LEMBERG, Department of History, Lingnan University
Prof. Niccolò PIANCIOLA, Department of History, Lingnan University

Abstract
This project evaluates the potential of the "Reacting to the Past" (RTTP) method of game-based learning which is not well-known in Asia, and attempts to contribute to student achievement in the History Department and potentially in the broader university community. The RTTP methodology employs active role-playing, in which students assume the identities of historical figures and argue persuasively from these assumed perspectives. The Principal Project Supervisor (PPS) has trialed RTTP in her previous project, with very encouraging results: student participation and student critical and analytical capabilities were enhanced. These outcomes relate directly to History programme Intended Learning Outcomes (ILOs).

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View **Poster**
View **Video**

Online Venue
Room A

Areas of Interest
Pedagogical Advancement II

PLATFORM AND/OR SERVICES

KEEP

How to USE KEEP to
Improve Teaching and Learning

From course hosting to data visualization, KEEP provides a complete set of tools and resources to enable you to flip, blend, and digitize your course materials.

Presenter *Bo Zhu* (Project Manager, KEEP)

Step 1

Single sign-on

Integrated login system with HK universities to allow easy login for teachers and students with their institutions' accounts.

Step 2

KEEPCourse

Browse existing online courses and see the world's best examples of blended and online learning experiences.

OPENedX / moodle

Choose a platform to host your course and use the latest question types, discussions, and video players to create interactive experiences for your learners.

Step 3

Dashboard

Review and track your learners' engagement with high quality visualizations to help you tailor your teaching and improve your content.

Step 4

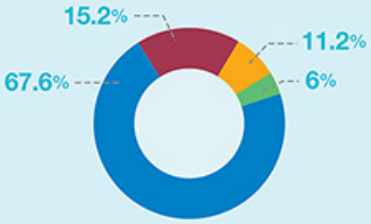
KEEPoll

Check in-class learners' comprehension real-time with short questions using their mobile phones.

Step 5

What types of blended learning can I find on KEEP?

We support all different forms of blended learning and encourage educators to experiment with new pedagogies.



keep.edu.hk

Acknowledgement

KEEP (Knowledge & Education Exchange Platform) is funded by the University Grants Committee under the Funding Scheme for Teaching and Learning Related Proposals (2012-15 Triennium and 2016-19 Triennium) and matching funds from participating universities.

Collaborators

Partners

coursera Future Learn PaGamO edoreo OPENedX

P50: How to Use KEEP to Improve Teaching and Learning

Presented by
Mr. Bo ZHU, Knowledge & Education Exchange Platform (KEEP), The Chinese University of Hong Kong

Abstract
Online education has enabled teachers to apply various pedagogies more efficiently than in a traditional setting. With the use of KEEP (Knowledge & Education Exchange Platform), instructors are practicing different innovative teaching methods, such as blended learning, flipped classroom, peer instruction, badges and gamification. Each of the practices has its own contribution to teaching, including enhancing learning motivation and deepening understanding.

KEEP is a UGC-funded project for empowering educators and learners with impactful resources and innovative technologies for lifelong education. Since its launch in 2015, teachers from local universities and outside have hosted hundreds of online courses on KEEP, serving more than 87,000 students, with a wide variety in their content and teaching mode.

Teachers and eLearning support units are welcomed to our parallel session and poster presentation to exchange observations and experience in adopting innovative teaching practices. We also welcome inquiries at info@keep.edu.hk.

View **Poster**
View **Video**

Online Venue
Room B

Areas of Interest
Platform and/or Services I

Real-time PDF Commenting & Audience Interacting Online System

Teaching and Learning Innovation EXPO 2019

Introduction

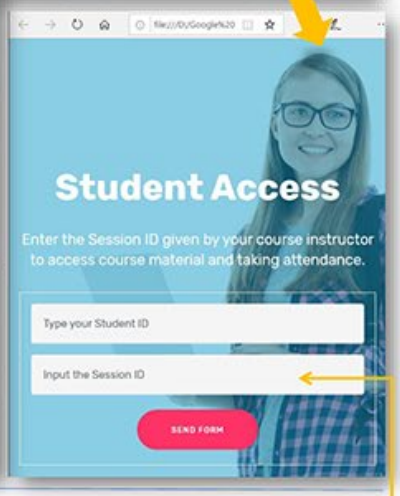
In common practice, instructors always tend to use generic computer-aided tools such as Slideshow or Word Processing software to facilitate their teaching in class. However, when they want to highlight few points, sketch some drawings during teaching or even type few texts in real time, it seems that those tools cannot provide a convenient way for them to do so. Instead, many instructors migrate to draw on the whiteboard or even use visualizer to write on hard copy of notes. Thus, I would like to propose an online system that can allow real-time typing, simple drawing and highlight on PDF file online.

Teacher Mode

Instructors need to input course code & title as well as self-created password to create a new session. Then, session ID will be shown and you can feel free to pass to students to join.

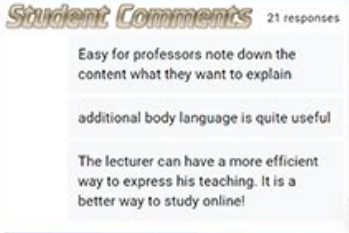
Student Mode

Students need to input their student ID and the session ID given by their course instructors to access handouts, announcement and chatroom.



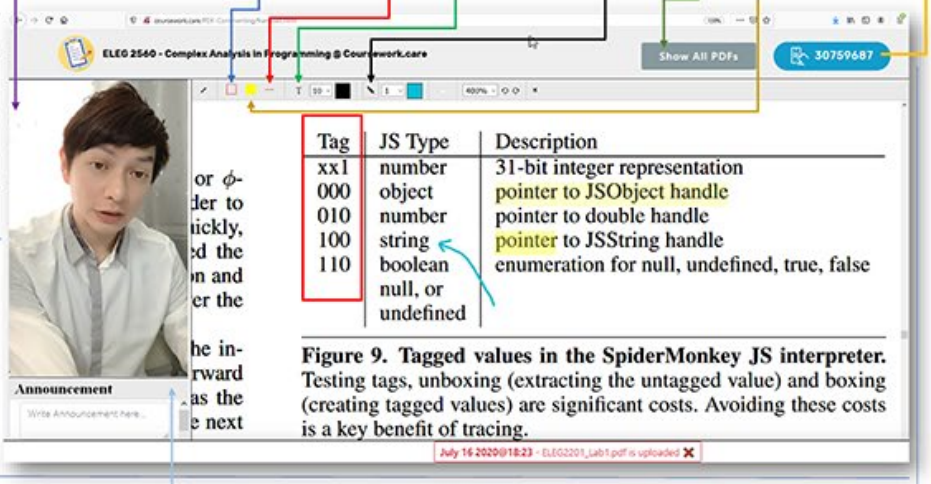
Portrait Face Capture

Besides, it is now a trend to have both face-to-face teaching together with online LIVE teaching. However, it is a common practice that those real-time teaching platform always show presenter's face through a very small window when screen sharing is made. It cannot deliver any cordial feeling to our students. To better handle this issue, a scalable portrait view via webcam is added.



Browse/Change Handout

Instructors can upload their PDF files by clicking "Show All PDFs" button in order to share the handout with students and start teaching using various annontation tools, such as drawing rectangles and lines, typing, freehand drawing, highlighter, etc.



Tag	JS Type	Description
xx1	number	31-bit integer representation
000	object	pointer to JSObject handle
010	number	pointer to double handle
100	string	pointer to JSString handle
110	boolean, null, or undefined	enumeration for null, undefined, true, false

Figure 9. Tagged values in the SpiderMonkey JS interpreter. Testing tags, unboxing (extracting the untagged value) and boxing (creating tagged values) are significant costs. Avoiding these costs is a key benefit of tracing.

Announcement

The announcement area allows intructors to input real time notices to alert students.

Demo Site → https://live.frankieyip.com

By K. F. Yip, Frankie - Lecturer of Electronic Engineering, CUHK

P51: Real-time PDF Commenting and Audience Interacting Online System

Presented by
Mr. Kim Fung YIP, Department of Electronic Engineering, The Chinese University of Hong Kong

Abstract
In common practice, instructors always tend to use generic computer-aided tools such as Slideshow or Word Processing software to facilitate their teaching in class. However, when they want to highlight few points, sketch some drawings during teaching or even type few texts in real time, it seems that those tools cannot provide a convenient way for them to do so. Instead, many instructors migrate to draw on the whiteboard or even use visualizer to write on hard copy of notes. Thus, I would like to propose an online system that can allow real-time typing, simple drawing and highlight on PDF file online.

Besides, it is now a trend to have both face-to-face teaching together with online LIVE teaching. However, it is a common practice that those real-time teaching platform always show presenter's face through very small window when screen sharing is made. It cannot deliver any cordial feeling to our students. To better handle this issue, a scalable portrait view via webcam will be added to either left or right side of the system so that audience can see both our face and gestures during teaching.

On top of this, students always hesitate to ask questions during the class but they are pleased to ask through text messages. Therefore, I would like to incorporate a announcement and chatroom interface shown side-by-side with PDF commenting area to enable audience silently reflecting their doubts.

View **Poster**
View **Video**

Online Venue
Room B

Areas of Interest
Platform and/or Services I

PLATFORM YOU NEED FOR FLIPPED TEACHING – RECRUITING PILOT USERS

Background

Traditional LMSs do not fully support the needs of the flipped classroom method mainly because these systems do not focus enough on students' learning processes.

Fabulearn

The 'Flipped Classroom Approach in Hong Kong Higher Education' Project has initiated the development of a new Learning Management System that is tailor-made to maximize the flipped classroom teaching and learning experience. The platform has the name 'Fabulearn', which stands for 'Flipped And Blended University Learning'.

Highlighted features

- *Easy breakdown of lessons into pre-class, during-class and post-class learning activities*

- *Support various learning activities and resources such as videos and interactive exercises*

- *Time-keeping function to ensure students observe the strict self-learning timeframes in a flipped course*

- *Detailed analytics for teachers to monitor students' learning in and out of class*

Recruiting users

We are recruiting interested teachers to pilot use the platform in real teaching.

Contact us

Please or contact Mr. Kevin Wong at 3943 6461 or kevin.wong@cuhk.edu.hk for more details.

Centre for Learning Enhancement And Research 學風提升研究中心

P52: Platform You Need for Flipped Teaching – Recruiting Pilot Users

Presented by
Prof. Paul LAM, Centre for Learning Enhancement And Research, The Chinese University of Hong Kong
Ms. Carmen LAU, Centre for Learning Enhancement And Research, The Chinese University of Hong Kong
Mr. Kevin WONG, Centre for Learning Enhancement And Research, The Chinese University of Hong Kong
Mr. Andy WAN, Centre for Learning Enhancement And Research, The Chinese University of Hong Kong
Mr. Joe TSANG, Centre for Learning Enhancement And Research, The Chinese University of Hong Kong

Abstract
Traditional LMSs do not fully support the needs of the flipped classroom method mainly because these systems do not focus enough on students' learning processes.

The 'Flipped Classroom Approach in Hong Kong Higher Education' Project has initiated the development of a new Learning Management System that is tailor-made to maximize the flipped classroom teaching and learning experience. The platform has the name 'Fabulearn', which stands for 'Flipped And Blended University Learning'. For example, time-keeping function is a strong design element in the platform to ensure students observe the strict self-learning timeframes in a flipped course.

We are at the stage of recruiting interested teachers to pilot use the platform in real teaching. Please contact Mr. Kevin Wong at kevin.wong@cuhk.edu.hk for more details.

View **Poster**
View **Video**

Online Venue
Room B

Areas of Interest
Platform and/or Services I

香港中文大學
The Chinese University of Hong Kong

Centre for Learning Enhancement And Research 學與教研究中心

uReply

Presented by
Prof. Paul Lam / Kevin Wong
Yuki Lai / Marco Tang

uReply 2019 - 20

- Function Update Summary -

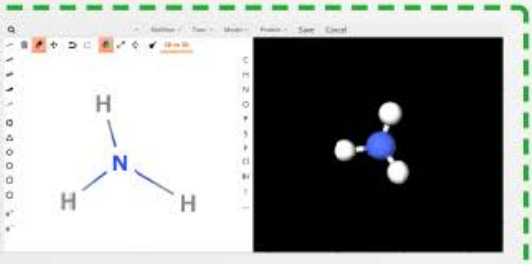
Abstract

We would like to report a number of 2019 feature updates of uReply in the poster. The enhancements include enhanced support for subject-specific interactions, such as question types that are tailored for language learning and science learning. uReply is also made LTi compatible. In other words, the integration of the system with most major learning management systems is now achievable.

We will also present a brief 2020 developmental plan in the occasion and we look forward to conversing with the participants for further suggestions and comments.

- MC with others

Add an 'others' option to the end of the MC question and allow student to explain



- Chemistry

A specific question type for learning of chemical bonds and structures. Teachers test students' understanding of the chemical structures of various substances by asking them to draw on their mobile devices.

- File upload

A question that solicit file upload (e.g. videos. audios. images or even document files) from students as answer. It can be used for language learning, or in a science or medical class when students take photo/video of their lab procedures or products and share.

4 NEW Question Types have been updated

- Option list

This can replace MC questions when there are ten or more options to choose from. Students are to pick their choice from a scrollable list.

LTi compatibility

uReply is made compatible with the LTi technology. That means it can now be integrated in a number of common LMS (e.g. Blackboard) through this mutual standard.

P53: uReply Function Update Summary 2019-20

Presented by
Prof. Paul LAM, Centre for Learning Enhancement And Research, The Chinese University of Hong Kong
Mr. Kevin WONG, Centre for Learning Enhancement And Research, The Chinese University of Hong Kong
Mr. Marco TANG, Centre for Learning Enhancement And Research, The Chinese University of Hong Kong

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We would like to report a number of 2019 feature updates of uReply in the poster. The enhancements include enhanced support for subject-specific interactions, such as question types that are tailored for language learning and science learning. uReply is also made LTi compatible. In other words, the integration of the system with most major learning management systems is now achievable.

We will also present a brief 2020 developmental plan in the occasion and we look forward to conversing with the participants for further suggestions and comments.

View **Poster**
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Online Venue
Room B

Areas of Interest
Platform and/or Services I

PEDAGOGICAL USE of BILINGUAL TEXT-MINING

KONG Siu Cheung (sckong@eduhk.hk)
KWOK Wai Ying, Linda (waiyingk@eduhk.hk)
POON Chun Wing (pooncw@eduhk.hk)
CHEN Guanghe, Dillan (gchen@eduhk.hk)
MA Chenglong (clma@eduhk.hk)
Centre for Learning, Teaching and Technology, The Education University of Hong Kong

The use of **bilingual text-mining system** is introduced to EdUHK courses for **3 types of learning analytics supports**.

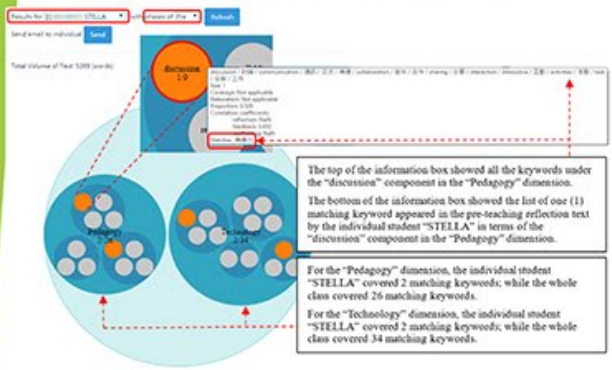
(1) The system can automatically identify and count the matching keywords mentioned in students' reflection texts, according to the frameworks of topic-specific keywords established by the teachers.

(2) The system can automatically generate hierarchical visualization of text-mining results, of which the zoom-able diagrams incorporate a number of statistical quantities for interpreting text-mining results from the individual-student, student-group, and whole-class perspectives.

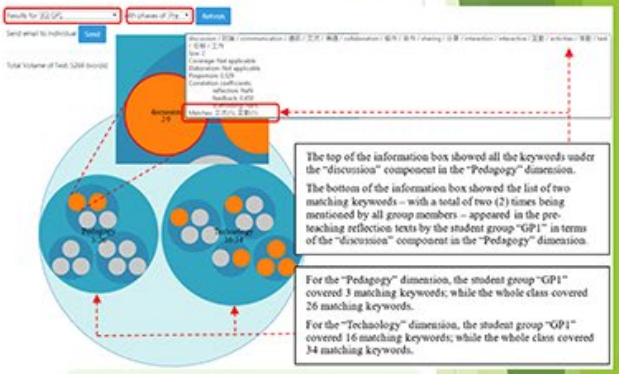
(3) The system can automatically analyze students' major focuses in their learning reflection, for checking students' strengths and inadequacies in understanding the topic-specific concepts.

These learning analytics supports are empirically examined to be effective for stimulating and guiding students to **check learning inadequacies, identify areas of improvement, and re-think learning focuses in course learning.**

"Individual / Class" comparison

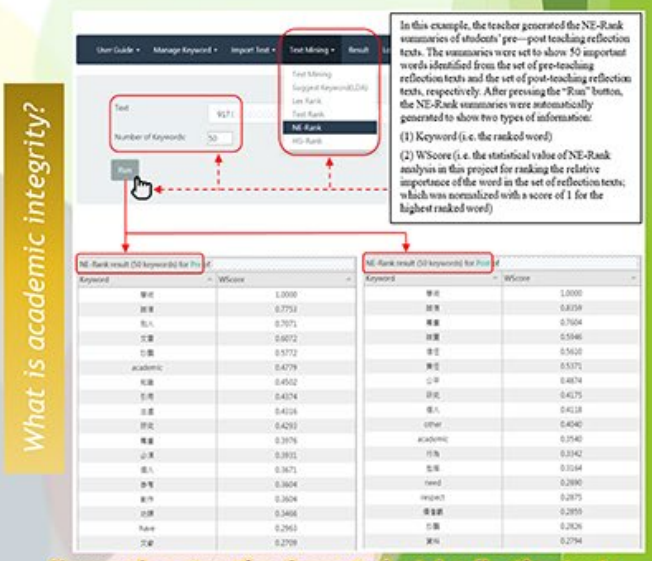


"Group / Class" comparison



LexRank analysis

NE-Rank and HG-Rank analyses



Students' major focuses in the learning reflection

Keywords-extraction from students' reflection texts

香港教育大學
The Education University of Hong Kong

U10: Pedagogical Use of Bilingual Text-Mining

Presented by
Prof. Siu Cheung KONG, Centre for Learning, Teaching and Technology, The Education University of Hong Kong
Dr. Linda Wai Ying KWOK, Centre for Learning, Teaching and Technology, The Education University of Hong Kong
Dr. Chun Wing POON, Centre for Learning, Teaching and Technology, The Education University of Hong Kong
Mr. Dillan Guanghe CHEN, Centre for Learning, Teaching and Technology, The Education University of Hong Kong
Mr. Chenglong MA, Centre for Learning, Teaching and Technology, The Education University of Hong Kong

Abstract
The use of bilingual text-mining system is introduced to EdUHK courses for three types of learning analytics supports. (1) The system can automatically identify and count the matching keywords mentioned in students' reflection texts, according to the frameworks of topic-specific keywords established by the teachers. (2) The system can automatically generate hierarchical visualization of text-mining results, of which the zoom-able diagrams incorporate a number of statistical quantities for interpreting text-mining results from the individual-student, student-group, and whole-class perspectives. (3) The system can automatically analyze students' major focuses in their learning reflection, for checking students' strengths and inadequacies in understanding the topic-specific concepts. These three learning analytics supports are empirically examined to be effective for stimulating and guiding students to check learning inadequacies, identify areas of improvement, and re-think learning focuses in course learning.

View **Poster**
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Online Venue
Room B

Areas of Interest
Platform and/or Services I

MAKERSPACE IN THE CUHK LIBRARY

A SPACE FOR CREATIVE LEARNING, INNOVATION AND COLLABORATION

2013

Since it opened the Learning Garden has supported innovative and collaborative learning providing 3D printing and scanning equipment.

3D Printing

2018

The Library was fortunate to receive funding from the University to develop enhanced MakerSpace facilities in the Learning Garden to support innovation, entrepreneurship and creative learning.

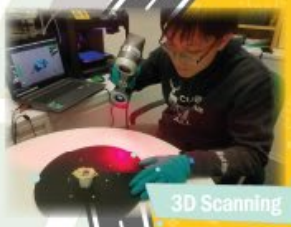
Creative Media studio for video production

UV Printing

2019

Working with a group of academic advisors on the design and services the MakerSpace opened in September.

- Open to all CUHK students and staff
- An entry point to explore the maker's culture
- Cross-disciplinary collaboration
- Self-service model

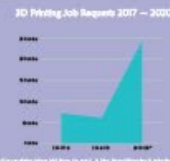


3D Scanning

VR Zone

SERVICES INCLUDE

- **D** - 3D Printing, 3D Scanning, Laser Cutting and UV Printing
- **R** - Virtual Reality
- **I** - Internet of Things (IoT) Tools
- **V** - Video Production
- **E** - Embroidery Machine



Embroidery Machine

2020 ~ 2021

Workshop on Internet & Things (IOT)

FUTURE COLLABORATION

Interested parties for collaboration, please contact

Lily Ko
Tel: 3943 9737
Email: lilyko@lib.cuhk.edu.hk
Learning Garden and MakerSpace
Tel: 3943 9730
Email: liblc@lib.cuhk.edu.hk

For details:
please visit: https://libguides.lib.cuhk.edu.hk/makerspace

Laser Cutter

Project Team: Lily KO, Winnie TANG, Kitman MAN

P54: MakerSpace in the CUHK Library: A New Space for Creative Learning

Presented by
Ms. Lily KO, The Chinese University of Hong Kong Library, The Chinese University of Hong Kong

Abstract
The CUHK Library is committed to supporting the University-wide theme Innovation & Design. The Learning Garden, which provides collaborative workspaces, has been updated and expanded with a new MakerSpace with the following services starting from September 2019:
o Easy-to-Use creative media production studio
o Editing Booths with High Performance Workstations
o AR & VR equipment and software
o Laser cutting & UV Printing
o 3D printing & scanning services
o Internet of Things (IoT) Tools
o Embroidery Machine
o Software for Image Editing, 3D Modeling, 3D Rendering, 3D Sculpting as well as AR/VR creation
o Workshops on various digital and maker skills

This MakerSpace is open to all members of the CUHK community and serves as an entry point for staff and students to explore the maker's culture. It aims at promoting cross-disciplinary collaboration among students to acquire the digital and maker literacy as life-long skills. Through various types of workshops, hands-on learning experience and self-services model, students are encouraged to be exposed in the maker's culture via trial and error.

This presentation will share the opportunities and challenges facing by the Library in promoting the digital and maker literacy to students during the implementation of the MakerSpace project. It also invites interested academic and teaching staff to collaborate with the CUHK Library to develop digital content or projects for teaching and research use via the MakerSpace equipment and resources.

View **Poster**
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Online Venue
Room B

Areas of Interest
Platform and/or Services II

Renovating Language Labs to Facilitate Classroom Interaction in Language Education

Aubrey Chan, Jose Lai, Paul Lam, Kevin Wong, Alan Tse
The Chinese University of Hong Kong

1. Background

- Language labs are widely used in language education.

- The labs enable teachers to listen to individual students through headsets connected to computers. They also enable students to practice listening and speaking using their individual workstation.

- In recent years, peer interaction has been demonstrated as an effective pedagogy in language education.

- Since traditional labs were designed primarily for individual work rather than group discussion, existing lab configuration and bulkyhardware may pose limitation on peer interaction.

2. New Design

- The availability of mobile eLearning technologies has enabled new possibilities for language lab design.

- 9 language labs at the Chinese University of Hong Kong (CUHK) have been renovated in 2019.

2.1 Design Goals

- Create **a more interactive** learning space optimized for language education by encouraging both peer-to-peer and peer-to-teacher interaction.

- Maintain the flexibility to be converted to other usage.

Movable Tables

Laptop Computers

2.2 Key Features

- Desktop computers were replaced with new laptops to minimize visual barrier.

- In 3 of the language labs, fixed tables were replaced with round, movable ones, so that users can easily form groups.

- Pull-up boards were installed between tables, so that a more individualized space can be created when needed

- Wired headsets and microphones connected to Sanako system to allow easy listening and recording.

Flexible pull-up board between each table

Headsets connected to Sanako system

3. Teachers' Feedback

- We have circulated an online survey to collect feedback among CUHK teachers who have used these language labs. 44 valid responses were collected (response rate = 48%).

- Vast majority of the respondents are language teachers

3.1 Overall Satisfaction

Average satisfaction rate is **6.7**/10
Satisfaction is significantly higher in rooms with movable tables (**7.6** vs. **6.4**)

Q: In a scale from 0 to 10, how satisfied are you with the language lab overall?

3.2 Facilities Usage

70% of teachers have asked students to form small groups in at least half of the lessons

Q: How frequently have you used the language lab for the following purpose? (out of 10 weeks in the current semester)

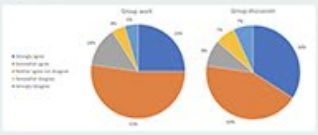
3.3 Class Time Use

35% of class time was used for student group work

Q: In your estimate, what percentage of class time was used for the following activities?

3.4 Comparison with traditional classrooms

77% agree that compared with traditional classroom, the language lab provides a better environment:
a) For students to conduct group work
b) For group discussion



3.5 Qualitative Comments

"It makes interaction easier and more likely. [....] It's the best classroom at CUHK!!"
"Movable desks! Sound-proof carpet, which makes my video/audio recording much clearer."
"The lab gives the opportunity for the students to focus on their listening and oral skills much more than in a traditional classroom. The teacher can record all of the students' productions and give on-site or later feedback." "The computers are faster"
"It is spacious; with the PC Units gone it is less of a distraction to students."

"I wish the computers are still there in front of the students so that they do not need to twist their necks in viewing the pptx slides."
"Students disturb each other when they record their own voice."
"Please make "Master Controlling students' computer screen" available, like old classroom."
"There are too many cables on the desk. Students sometimes can't find where the headset cables are."

4. Lessons Learned

New room setting encourages classroom interaction in language teaching.

Next step: Explore the potential of using new hardware and software solutions to address teachers' concern (e.g., wireless headsets, better software control).

香港中文大學
The Chinese University of Hong Kong

Centre for Learning Enhancement And Research
學與教研究中心

P55: Renovating Language Labs to Facilitate Classroom Interaction in Language Education

Presented by
Dr. Jose LAI, English Language Teaching Unit, The Chinese University of Hong Kong
Mr. Alan TSE, Centre for Learning Enhancement And Research, The Chinese University of Hong Kong
Prof. Paul LAM, Centre for Learning Enhancement And Research, The Chinese University of Hong Kong
Mr. Kevin WONG, Centre for Learning Enhancement And Research, The Chinese University of Hong Kong
Mrs. Aubrey CHAN, Registration and Examination Section, The Chinese University of Hong Kong
Mr. Stephen LEUNG, Campus Development Office, The Chinese University of Hong Kong

Abstract
Constructivist pedagogies such as active learning and peer learning are widely seen as more effective compared with traditional didactic teaching (Donwell & Eison, 1991; Topping 2005). The role of peer interaction is especially important in language education (Sato & Ballinger, 2016). Yet peer interaction may be inhibited by physical limitations of classrooms.

In an attempt to create a more flexible active learning space, all 9 multi-purpose classrooms (also known as language labs) in CUHK have been fully or partially remodeled in 2019. Desktop computers have been replaced with laptops. Some fixed tables were replaced with movable ones. Flexible dividing boards with a "pull-up" design were installed between each seat. The design goal was to minimize physical and visual barriers among users. The space was designed to encourage both peer-to-peer and peer-to-teacher interaction, while maintaining the flexibility to be converted to other usage, such as exam or individual language practice.

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Online Venue
Room B

Areas of Interest
Platform and/or Services II

TEACHING AND LEARNING COMMUNITY OF PRACTICE

香港中文大學 The Chinese University of Hong Kong

Teaching and Learning Community of Practice

Professor Paul Lai Chuen LAM[1], Dr. Isabel Shui Shan HWANG[2], Dr. Fred Kei Tat KU[3], Dr. Ann Sin Nga LAU[4], Dr. Frankie Kwan Kit WONG[5], Dr. Jacqueline Wai Ting WONG[6] and Dr. Wai Tat WONG[7]

[1] Centre for Learning Enhancement And Research, [2] School of Biomedical Sciences, [3] Department of Decision Sciences and Managerial Economics, [4] School of Biomedical Sciences, [5] Department of Geography and Resource Management, [6] Department of Decision Sciences and Managerial Economics and [7] Department of Anesthesia and Intensive Care

EXTENSION AND EXPANSION

We are pleased to announce that a new project has been funded as an extension and expansion of the previous eLearning Community of Practice (eLCoP) project. In the new project, the previous eLearning Community of Practice (eLCoP) will be renamed as Teaching and Learning Community of Practice (T&L CoP) and will cover any teaching and learning initiatives.

PREVIOUS ACTIVITIES

The eLearning Community of Practice is a teacher community at The Chinese University of Hong Kong formed in 2017. It aimed to promote the use of technology in teaching and learning, and to facilitate the dissemination, sharing and advancement of pedagogical practices and strategies through communities and giving each other mutual support.

Networking Events

Round table discussions, team building meetings and gatherings.

Sharing of teaching practices to outside parties

Dr. Isabel Hwang
(Leader of Micro-Module Courseware Subgroup)
shared at the workshop on Community of Practice
organised by Teaching and Learning Centre of Lingnan University
(April 2019)

Dr Kent Lee
(core member of Location-based Learning subgroup)
shared use case in enhancing experiential learning
through location-based mobile assisted learning platform in uReply User Forum
(May 2019)

Conducting teacher survey on MMCD

Visits, sharing sessions, workshops and seminars

Community of Practice Forum cum Launch of CUHK eLearning CoP (June 2017)

eLearning Community of Practice Interest Groups Previews (Nov and Dec 2017)

Visit to imseCAVE (May 2018)

Beyond the eLearning Boundary from Online to Virtual - Case Sharing of AR/VR Application in CUHK/CityU/HKU/ PolyU (July 2018)

Information Session on eLearning Services and Grants co-organised with ELITE (Sep 2019)

Showcase videos of micro-module and courseware development

Promotion of eLearning support and production services available at CUHK

LATEST AND FUTURE ACTIVITIES

Starting from 2020, the renamed Teaching and Learning Community of Practice (T&L CoP) will serve a wider scope of professional development and teaching innovations:

- Inviting teachers to form new interest groups
- Briefing sessions, sharing sessions and talks

Best Practices for Teaching:
Teacher Sharing Series Webinars delivered by core members of CoP
(February/March 2020)

- Cross-University events and student symposium
- Production of Teaching and Learning resources (e.g. Videos) to disseminate good practices

CONTACT US

For details and available recourses of the community, please visit http://www.cuhk.edu.hk/clear/CoP

Scan QR Code
For Our Website!

Funded by Teaching Development and Language Enhancement Grant (TDLEG) 2016-19 & 2019-22 Triennium

P56: Teaching and Learning Community of Practice

Presented by
Dr. Isabel Shui Shan HWANG, School of Biomedical Sciences, The Chinese University of Hong Kong
Dr. Frankie Kwan Kit WONG, Department of Geography and Resource Management, The Chinese University of Hong Kong
Prof. Paul LAM, Centre for Learning Enhancement And Research, The Chinese University of Hong Kong
Dr. Fred Kei Tat KU, Department of Decision Sciences and Managerial Economics, The Chinese University of Hong Kong
Dr. Ann Sin Nga LAU, School of Biomedical Sciences, The Chinese University of Hong Kong
Prof. Jacqueline Wai Ting WONG, Department of Decision Sciences and Managerial Economics, The Chinese University of Hong
Dr. Wai Tat WONG , Department of Anesthesia and Intensive Care, The Chinese University of Hong Kong

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The Community of Practice (T&L CoP) is a teacher community at The Chinese University of Hong Kong for connecting teachers interested in various themes. Its aim to facilitate the dissemination, sharing and advancement of good practices.

Taking this opportunity, we would like to 1) report some of the work and progress of the eLCoP in the past two years, 2) introduce some latest activities of the Teaching and Learning Community of Practice, and 3) recruit teachers into the community.

For details and available recourses of the community, visit http://www.cuhk.edu.hk/clear/CoP/.

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Online Venue
Room B

Areas of Interest
Platform and/or Services II

香港中文大學 The Chinese University of Hong Kong
uReply
Presenter: Prof. Paul Lam Mr. Kevin Wong
Miss Yuki Lai Mr. Marco Tang

uReply in Online Teaching

Abstract

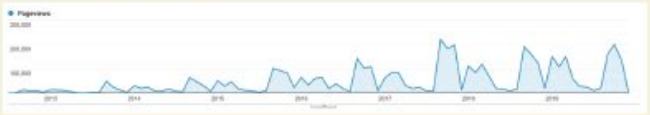
Even though uReply was originally designed to facilitate interactions in the classroom, to our surprise we found that many teachers have found the system still useful even in the past academic year when most of the teaching was online. The poster reports how uReply can be used in an purely online environment and how it further enhances the interactions that are not achieved by using only Zoom.

The online teaching experiences over the last year has also inspired the development team new features that could be added to uReply, including Attendance, Assessment and Exam modules. These new features will be explained in the poster as well.

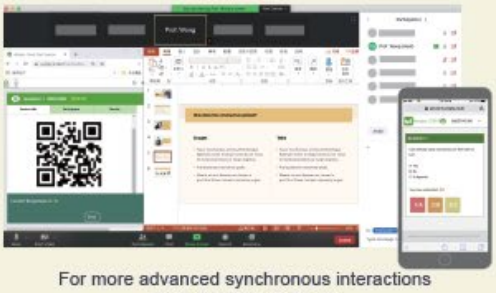
Using uReply for online interactions

Even though uReply was originally designed to facilitate interactions in the classroom, to our surprise we found that many teachers have found the system still useful even in the past academic year when most of the teaching was online.

Here are some usage data showing the use of uReply in two consecutive years.The usage did not drop despite most of the teaching was online.



It is found that teachers used uReply in a number of ways:



For more advanced synchronous interactions while teaching in Zoom

As assignment for students to work on live and display results for discussion right after

New developments

The online teaching experiences over the last year has also inspired the development team new features that could be added to uReply, including:

Attendance

an ad-hoc function for keeping attendance as well as recording students' seats in the classroom as a pandemic control measure

Exam

timed-release, end-of-paper time change, as well as windows-lock-down functions for using quizzes as online exams

Assessment

timed-release function of multi-item exercise for teachers to use the quizzes as pre- or post- class activities

P57: uReply in Online Teaching

Presented by
Mr. Kevin WONG, Centre for Learning Enhancement And Research, The Chinese University of Hong Kong

Abstract
Even though uReply was originally designed to facilitate interactions in the classroom, to our surprise we found that many teachers have found the system still useful even in the past academic year when most of the teaching was online. The poster reports how uReply can be used in an purely online environment and how it further enhances the interactions that are not achieved by using only Zoom.

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Online Venue
Room B

Areas of Interest
Platform and/or Services II

ELEARNING PEDAGOGICAL SUPPORT AND CONSULTATION

Why are we here for you?

The TDLEG-funded project **"eLearning Pedagogical Support and Consultation"** aims to develop close relationship with teachers who wish to further enhance their teaching approaches. We wish our partnership can support teachers to develop technology-enhanced and evidence-based teaching practices.

Our Service

- **One-on-one consultations** to facilitate the adoption of eLearning teaching practices and enhancement of teaching effectiveness
- We will provide consultation and evaluation service with the **ADDIE** approach, which stands for **Analysis, Design, Development, Implementation and Evaluation.**
- Further exploration of e-Learning: blended learning, geolocation learning, problem-based learning

ADDIE Model

Analysis
- Kick-off meeting
- Identify your goals on designing curriculum
- Realize your T & L constrains
- Understand target audience's need
- Explore various delivery options

Design
- Suggest instructional strategies
- Choose assessment tools
- Introduce technology that fits your learning outcomes

Development
- Provide tips and suggestions on learning platforms and strategies
- Do a pilot to collect your students' feedback

Implementation
- Observe how your course is delivered
- Collect students' feedback and study the learning analytics

Evaluate
- Conduct surveys or interviews with your students
- Provide suggestions on actionable changes

YOUR GOALS, OUR STRATEGIES

Contact us
Please contact **Flora Leung** at **3943 1305** or **floraleung@cuhk.edu.hk** for more information.

Website link
https://www.elite.cuhk.edu.hk/elearning-consultation

香港中文大學
The Chinese University of Hong Kong

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P58: eLearning Pedagogical Support and Consultation

Presented by
Prof. Paul LAM, Centre for Learning Enhancement And Research, The Chinese University of Hong Kong
Ms. Flora LEUNG, Centre for Learning Enhancement And Research, The Chinese University of Hong Kong

Abstract
In order to support CUHK teachers in sustaining practice of teaching excellence, our project aims to provide personalized consultation services to teachers to re-design innovative pedagogical approaches. Also, we aim to develop close relationship with teachers who wish to further enhance their teaching approaches with technology involved or not. The ADDIE model will be adopted to ensure a streamlined instructional design approach that focuses on feedback for continuous improvement. During the process, we would like to realize your T&L constrains and provides suggestions on learning platforms and strategies. Besides ADDIE approach, we can also introduce some eLearning pedagogies to you such as blended learning, geolocation learning and problem-based learning. Our expected outcome is that, our teachers can develop technology-enhanced and evidence-based teaching practices.

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Online Venue
Room B

Areas of Interest
Platform and/or Services II

STUDENTS' CAPABILITIES

Fostering Global-mindedness through Intercultural Education & Online Debriefings

Professor Jane Jackson & Ms. Tongle Sun, Department of English, CUHK

jjackson@cuhk.edu.hk & tonglesuncuhk@gmail.com

Abstract

This poster reports on a fully online General Education course that employs intercultural (IC) mentoring to propel international exchange students to higher levels of intercultural sensitivity and global-mindedness while abroad.

Intercultural Communication (ICC) & Engagement Abroad

- draws on ethnographic & mixed-method studies of L2 study abroad (SA) students (Jackson, 2008, 2010);
- employs IC mentoring/ guided critical reflection (Mezirow, 2000);
- draws on the *Intercultural Development Continuum* (IDC) (Hammer, 2012);
- employs a social constructivist approach to online pedagogy (Bryant & Bates, 2015);
- aligns with notions of adult education & SA as *potentially* transformative (Jackson, 2016, 2018, 2019; Mezirow, 2000; Paige 2015).

By the end of the course, participants should be able to:

- explain core concepts in ICC;
- describe L2 socialization theories;
- interact more effectively and appropriately with people who have a different linguistic and cultural background;
- assess their L2/IC learning;
- set realistic goals for further L2/IC development.

Course content

- Core elements in ICC (Jackson, 2020);
- Cross-cultural adjustment;
- IC competence development;
- Language, identity and ICC;
- IC/global citizenship;
- Re-entry adjustment.

Intercultural mentoring

an intercultural pedagogy in which the facilitator (mentor) stimulates deep, critical reflection to promote a higher level of IC learning and engagement (Jackson, 2016, 2018, 2019; Paige, 2015).

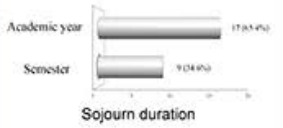
Learning activities

- Analysis of ICC micro modules, readings, YouTube clips & 'real world' data excerpts;
- Theme-based Forum/Fieldwork;
- Reflective essay.

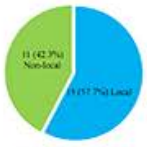
Profile of cohort

26 outbound international exchange students

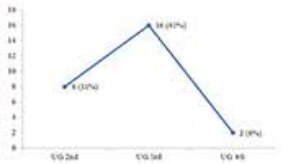
Sex: 6 (23.08%) M; 20 (76.92%) F



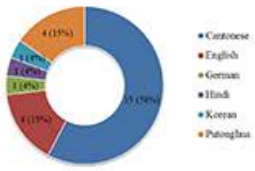
Sojourn duration



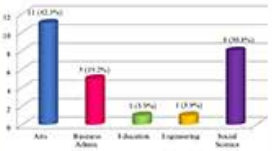
Student status



Year of study while abroad



First language



Faculty

SA destinations

Findings

- A review of the data revealed that the participants had become more mindful of their IC attitudes/ behavior and more willing to initiate IC interactions/use their L2 in social situations;
- Most believed that course materials/ activities had helped them to better understand IC issues.
- The majority felt that IC mentoring pushed them to develop a more global mindset and become more active in the host environment.

References

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Acknowledgements

This project received support from the Hong Kong Research Grants Council (RGC) Prestigious Fellowship under the Humanities and Social Science Panel (HSSPFS). We also greatly appreciate the willingness of the course participants to share their intercultural journeys with us.

P15: Fostering Global-mindedness through Intercultural Education and Online Debriefings

Presented by
Prof. Jane JACKSON, Department of English, The Chinese University of Hong Kong
Ms. Tongle SUN, Department of English, The Chinese University of Hong Kong

Abstract
This poster presents a case study of a fully online, general education course that has been designed to enhance the global-mindedness and intercultural sensitivity of international exchange students while they are in their host country. In Intercultural communication and engagement abroad, 26 participants digested related readings and YouTube links. Through full-class forum-fieldwork discussions, the writing of a reflective essay, and a global citizenship project, they developed a deeper understanding of what it means to be an ethical, global citizen. Guided, critical reflection prompted the participants to make connections to the intercultural theories and concepts that were explained in the course material. Online debriefings encouraged them to think more deeply about intercultural-global citizenship and the ways in which their own intercultural attitudes and actions may affect their interactions with individuals who have a different linguistic/cultural background from them. The presentation will provide an overview of the course (e.g., aims, activities, approach to learning and teaching, modes of assessment, grading scheme), and summarize key findings (learning outcomes, student perceptions of course elements) and implications for future offerings. (This project was supported by a Teaching Development and Language Enhancement grant from CUHK.)

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Online Venue
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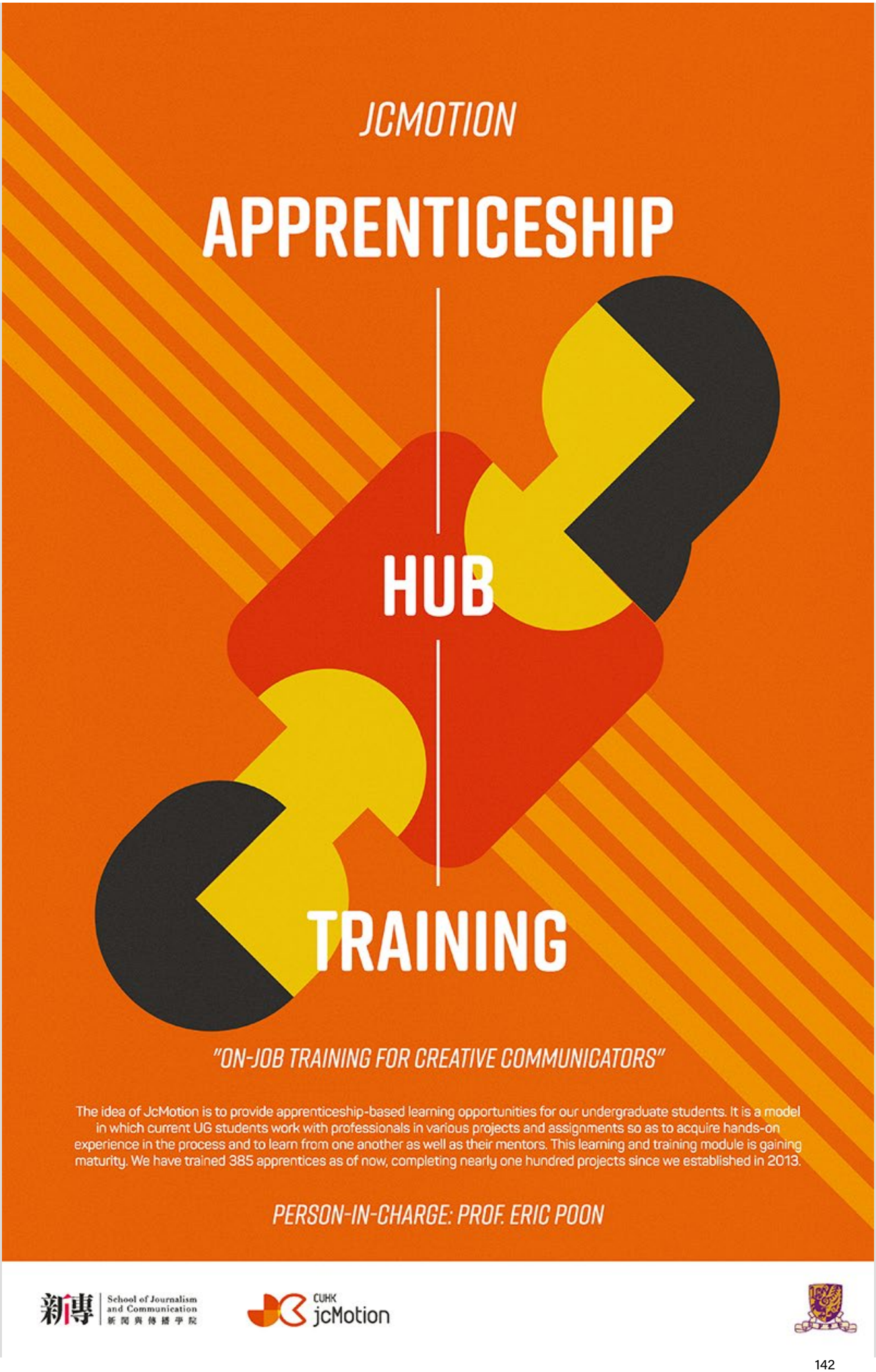
Areas of Interest
Students' Capabilities I


JCMOTION
APPRENTICESHIP
HUB
TRAINING
"ON-JOB TRAINING FOR CREATIVE COMMUNICATORS"
The idea of JcMotion is to provide apprenticeship-based learning opportunities for our undergraduate students. It is a model in which current UG students work with professionals in various projects and assignments so as to acquire hands-on experience in the process and to learn from one another as well as their mentors. This learning and training module is gaining maturity. We have trained 385 apprentices as of now, completing nearly one hundred projects since we established in 2013.
PERSON-IN-CHARGE: PROF. ERIC POON
新專 School of Journalism and Communication 新聞與傳播學院
CUHK jcMotion

P16: On-job Training for Creative Communicators

Presented by
Prof. Eric Tat Pui POON , School of Journalism and Communication, The Chinese University of Hong Kong
Ms. Vivian Sze Man LI, School of Journalism and Communication, The Chinese University of Hong Kong
Mr. Ming Him LUI, School of Journalism and Communication, The Chinese University of Hong Kong

Abstract
jcMotion provides Education through practical Experience and Exposure.
This is a unique platform under the School of Journalism and Communication, CUHK.

The idea is to provide systematic training in workshop format for our newly admitted students. By matching the expertise of our School's professors & lecturers, our alumni network in the media and communication field, as well as our talented students, we provide creative solutions and trainings to schools, universities, NGOs, charity organizations and other parties.

From media education to event management, from visual design to video production, we cover a variety of media expertise. All the projects are guided by media professionals and completed by jc-Apprentices.

New members of jcApprentices are recruited on a regulare basis since 2012. jcApprentices learn from one another, their seniors as well as professionals from the industry. Connections are made throughout the process. jcMotion Facebook page and jcApprentice group are created as an effective networking platform for both work and learning opportunities.
jcMotion also spreads knowledge and new ideas. jcMotion Publishing specializes in publishing e-papers, e-books and e-lectures.

Our Missions
• Enriching students' practical skills
• Providing chances for students to work with industrial professionals
• Bridging between school and society
• Nurturing a creative community
• Providing convenient service to school
• As creative partners to CUHK Departments

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Online Venue
Room C

Areas of Interest
Students' Capabilities I

" Internatinalization at Home" in Action: Enhancing global citizenship of nursing students locally and internationally 2-week " Global Health Nursing and Leadership Development Workshop"

HKU Med LKS Faculty of Medicine School of Nursing 香港大學護理學院

Chan, SL., Fung, TC.

Correspondence to: Dr Polly Siu Ling Chan
Email: pollycha@hku.hk

Introduction

Internationalization is one of the strategic themes for teaching and learning in the University of Hong Kong (HKU).
In consonance with this, a 'Global Health Nursing and Leadership Development Workshop' for undergraduate representatives of Southeast and East Asian Nursing Education and Research Network (SEANERN) was held in December 2018.

Objectives

Through the concept of 'Internationalization at Home (IaH)', we aim to:

- enhance the intercultural learning experience between the University of Hong Kong School of Nursing (HKUSON) and SEANERN students;
- empower the development of global citizenship among participated students.

Methods

Bi-directional global health initiatives, a 2-week intensive workshop including

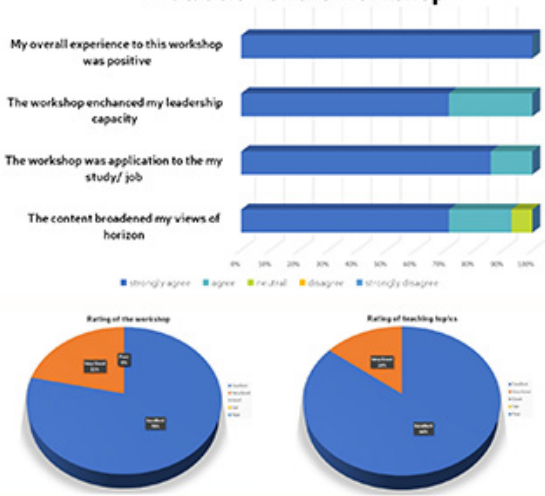
- Lectures, mini quiz;
- Presentation, discussion, reflection and sharing;
  - healthcare systems of different countries
- Laboratory sessions, simulation practice;
  - act as change agents to improve healthcare
- Community expedition
  - role of future leaders in sustaining the change in healthcare

Results

Post-workshop survey
Overall experience of students to the workshop was positive, their

- views of horizon were broadened;
- leadership capacity was enhanced; and
- the workshop was applicable to their studies

Evaluation of the workshop



Conclusions

Participated students were empowered to develop their intercultural learning and global citizenship through this extraordinary learning platform – IAH.

"All of them reported to have cultural exchange of knowledge via the workshop."

"All of them would like to share their experience and knowledge learnt from the workshop with their colleagues in their home countries."

"Some of them suggested to extend the duration of the workshop.

Immersion into bi-directional global health initiatives

Internationalization at home

"Most of them were impressed by the new technology such as simulation in the laboratory."

SEAN EDUCATION AREASEARCH NETWORK

U02: "Internationalization at Home" in Action: Enhancing global citizenship of nursing students locally and internationally via a 2-week 'Global Health Nursing and Leadership Development Workshop'

Presented by
Dr. Polly Siu Ling CHAN, School of Nursing, The University of Hong Kong
Dr. John FUNG, School of Nursing, The University of Hong Kong

Abstract
In line with the University's strategic theme on internationalization, the School of Nursing of the University of Hong Kong (HKUSON) has conducted a 2-week 'Global Health Nursing and Leadership Development Workshop' for undergraduate representatives of Southeast and East Asian Nursing Education and Research Network (SEANERN) in December 2018. A variety of teaching and learning strategies were deployed in the 2-week intensive workshop including lectures, laboratory, mini quiz, discussion and sharing, presentation, reflection, simulation practice and community expedition.

To benefit both local and international students, the concept of 'Internationalization at Home (IaH)', which aims to integrate international and intercultural learning on the domestic campus, irrespective of whether the student's experience is enhanced by mobility, has been incorporated in this workshop.

This workshop was organized in order to provide an opportunity for students of HKUSON and SEANERN to immerse into the learning of bi-directional global health initiatives. For example, different health care systems of different countries around the world were explored during the workshop; and students were facilitated to reflect on how to contribute as the change agents and how to sustain the change by assuming the role of future leaders. The workshop was proved to be a successful one as reflected from the post-workshop survey result. All students who have participated in the workshop believed that 1) their views of horizon were broadened; 2) their leadership capacity were enhanced; 3) the workshop was applicable to their studies; 4) their overall experience to the workshop was positive. In conclusion, the students were empowered to develop their intercultural learning and global citizenship through this extraordinary learning platform – IaH.

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Room C

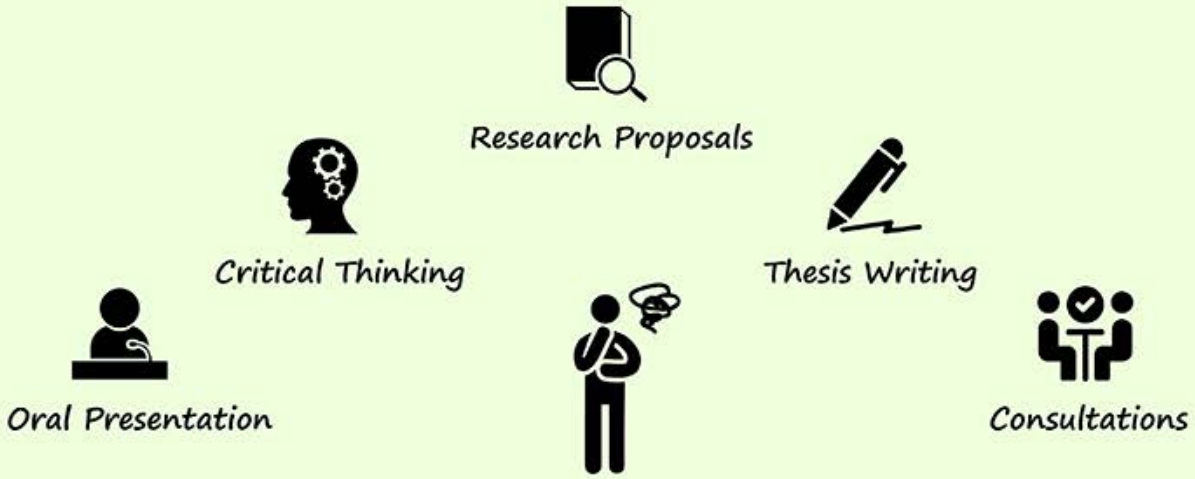
Areas of Interest
Students' Capabilities I

研究生專區

PG Corner (Chinese version)

https://www.ilc.cuhk.edu.hk/Workshop/PGcorner_chi/

Authors: Felix Chao (ILC), Ocean Siu (ILC)



PG Corner (Chinese version) aims to help postgraduate students to write Chinese thesis or research paper. Students can find the information that they may need, for example, for critical thinking, both web resources and printed materials are provided for study. Also, students can find instruction of how to write research proposals by clicking various links, and browse through different proposal examples by subject category.

In order to facilitating students' self-learning in oral presentation and thesis writing, hyperlinks of selected relevant websites and reference books in the CUHK library are also included in the design. In addition, information on consultation services are provided to students, which allows them to seek advices on writing Chinese essays, or having a face-to-face discussion with the ILC teachers.

Please scan the QR code for more information!

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P18: PG Corner (Chinese Version)

Presented by
Dr. Felix CHAO, Independent Learning Centre, The Chinese University of Hong Kong
Dr. Ocean SIU, Independent Learning Centre, The Chinese University of Hong Kong

Abstract
For most postgraduate students, how to write a thesis is a major problem because of the lack of relevant experience. The ILC consolidated valuable English academic resources to facilitate their study in the past, however, support for Chinese academic writing is still insufficient. In order to strengthen support in this area, we have developed the "PG Corner (Chinese Version)", which aims to help postgraduate students to write Chinese thesis or research paper. We collect information that students may need, for example, for critical thinking, we recommend both web resources and printed materials that help them to study. Students can find instruction of how to write research proposals by clicking various links, and browse through different proposal examples by subject category. Hyperlinks of selected relevant websites and reference books in the CUHK library are also included in our design to facilitating students' self-learning in oral presentation and thesis writing. In addition, information on consultation services are provided to students, which allow them to seek advices on writing Chinese essays, or having a face-to-face discussion with the ILC teachers.

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Online Venue
Room C

Areas of Interest
Students' Capabilities II

大學通識教育
University General Education

Understanding Students' Cognitive Complexity through a Narrative Qualitative Analysis: a Pilot Study

WU Jun Vivian, General Education Foundation Programme, CUHK
LI Yangxian, School of Chinese Medicine, CUHK

Abstract

Narrative Qualitative Analysis (NQA) was developed as the first objective (i.e. based on the teacher's evaluation) and qualitative (i.e. not on Likert scales) assessment tool for the General Education Foundation (GEF) Programme from 2014 to 2017. NQA aims to evaluate and understand students' cognitive complexity by systematically analyzing students' writing assignments. A good understanding of the students' ability would help the teacher cultivate an appropriate learning environment and design suitable learning activities. In NQA, the development of cognitive complexity is divided into four key steps. Correspondingly, there are five thinking performance patterns. In this poster, we will present the two main results from our pilot study. Firstly, by comparing the NQA result from teachers' evaluation with students' self-evaluation of their thinking performance patterns, it is discovered that students generally overate their cognitive complexity. Secondly, through a systematic NQA study on students' writing assignments, it is found that most students are clustered in the lowest two levels of thinking performance patterns. Furthermore, the study also highlights some common characteristics of students' thinking, which may provide clues for teaching improvement.

Background:

GEF Courses and the NQA Project

- ✓ The two GEF courses, *In Dialogue with Humanity* and *In Dialogue with Nature*, two compulsory general education courses for all CUHK undergraduates, are reading and writing intensive. Students are required to read assigned classics and participate tutorial discussions on weekly basis; then they need to integrate their understanding and interpretation to address some enduring open-ended questions in writing assignments. With such course designs, the GEF programme aims to promote students' academic preparedness and confidence in cognitive capabilities, including reading, writing, communication and critical skills.
- ✓ To evaluate and improve the teaching, a research through Narrative Qualitative Analysis (NQA) was carried out from 2014 to 2017 in the GEF programme. This NQA project was developed from the Wolcott-Lynch Model, and the main findings were published in the final report. The current poster will report some preliminary results based on an extended study of the NQA project.
- ✓ The uniqueness of NQA study is that it enables an objective and qualitative evaluation of students' cognitive capabilities, providing a valuable supplement to the widely-adopted course teaching evaluation (CTE), which is mainly quantitative and based on students' self-reflection. The NQA project focused on evaluating students' cognitive complexity, containing essential skills aimed by the GEF programme as well as University education.

Methodology:

Student Self-evaluation plus Teacher's Evaluation

Student Self-evaluation

Term Start:

At the beginning of the term, the course teacher introduces the Wolcott-Lynch model, and the students are invited to self-evaluate their overall thinking performance patterns voluntarily based on the criteria provided by the model.

Teacher's Evaluation

Term Middle: Reflective Journal Evaluation

After collecting students' reflective journals, the course teacher analyzes each student's individual thinking performance pattern as demonstrated in the writing.

Term End: Term Paper Evaluation

After students submit their final term papers, the course teacher will again apply the Wolcott-lynch model to analyze students' thinking performance patterns individually.

Theoretical Tools:

Wolcott-Lynch Model & Thinking Performance Patterns

Wolcott-Lynch Conceptual Model

STEP 0: FOUNDATION Knowledge and Skills
- Repeat or paraphrase information from textbook, notes, etc.
- Reason to single "correct" solution, perform computations, etc

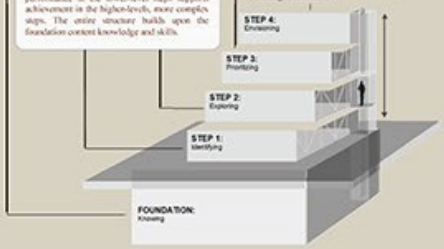
STEP 1: IDENTIFY the Problem, Relevant Information, and Uncertainties
- Identify problems & acknowledge reasons for enduring uncertainty & absence of single "correct" solution
- Identify relevant information and uncertainties embedded in the information

STEP 2: EXPLORE Interpretations and Connections
- Interpret information
  Recognize and control for own biases
  Articulate assumptions and reasoning associated with alternative points of view
  Qualitatively interpret evidence from a variety of point of view
- Organize information in meaningful ways that encompass problem complexities.

STEP 3: PRIORITIZE Alternatives and Implement Conclusions
- After thorough analysis, develop and use reasonable guidelines for prioritizing factors to consider and choosing among solution options
- Efficiently implement conclusions, involving others as needed

STEP 4: ENVISION and Direct Strategic Innovation
- Acknowledge, explain, and monitor limitations of endorsed solution
- Integrate skills into on- going process for generating and using information to guide strategic innovation

Students' cognitive complexity was scaffolded into four sequential steps with corresponding characteristic thinking skills, namely, identifying, exploring, prioritizing and envision. Better performance in the lower-level steps supports achievement in the higher-levels, more complex steps. The entire structure builds upon the foundation content knowledge and skills.



In real situations, when addressing an open-ended problem, students often employ all thinking steps simultaneously. Given the self-scaffolding nature of the model, unsatisfactory performance in lower-level thinking steps often affects the performance in the higher-level thinking steps. Consequently, we can classify students into five thinking performance patterns.

Wolcott-Lynch Thinking Performance Patterns

References: Wolcott, S. K. (2010). College Faculty Handbook: Steps for Better Thinking. Retrieved from http://scholarsbank.com/forum/showthread.php?t=1&page=1

For each writing assignment, the course teacher needs to:
- *evaluate the student's **overall thinking performance** pattern based on his/her writing;*
- *highlight **individual weakness and improvement** as demonstrated in the writing;*
- *write free comments when necessary*

Data were collected from an *In Dialogue with Nature* class in **2016-2017 Term 1**. 75 students joined the voluntary self-evaluation, and 95 students were evaluated twice by the course teacher in the middle and the end of the term. All data are put together for further analysis.

Preliminary Results:

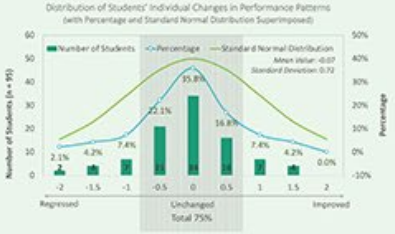
Overall Thinking Performance Patterns

The mean value of student self-evaluation(1.73) is almost one level higher than that of the teacher's evaluation based on the NQA study, which suggests that students tend to overrate their thinking performance patterns.

NQA analyses consistently reveal that about 80% of students belong to the lowest two thinking performance patterns. The result is also comparable to the original Wolcott-Lynch study on students in US universities.

	Mean Value	Total No. of Students	LEVEL 0: CONFUSED FACT-FINDER	LEVEL 1: BIASED JUMPER	LEVEL 2: PERPETUAL ANALYZER	LEVEL 3: PRAGMATIC PERFORMER	LEVEL 4: STRATEGIC RE-VISIONER
Student Self-evaluation	1.73	75	5	27	27	15	1
NQA Project	1.0	48	10	30	6	2	0
Reflective Journal Analysis	1.04	95	23	50	17	5	0
Term Paper Analysis	0.97	95	24	51	19	1	0

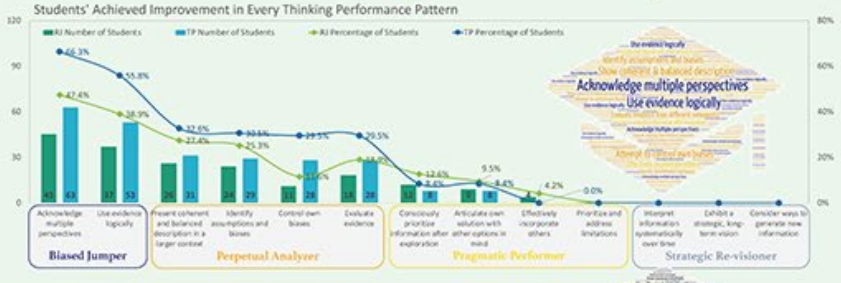
There observes NO statistical difference on the distributions of overall performance patterns between the Reflective Journal analysis and Term Paper analysis. This result is consistent with the Wolcott-Lynch statement that a level-improvement on average requires 2 to 3 years of practice. Comparison between the Reflective Journal and Term Paper analyses for individual students confirms the same result.

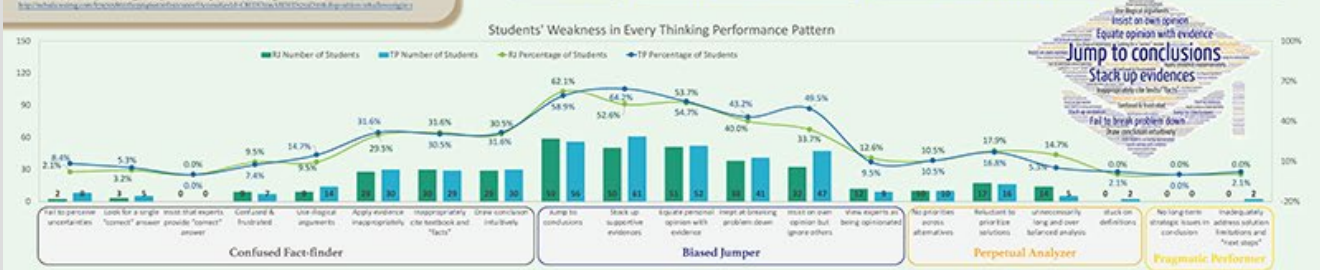


Other than overall patterns, we also investigated individual components in every thinking performance pattern, which reveal more detailed descriptions of the cognitive complexity of our students. The discovered patterns will help the teacher to design classroom activities and assessment within the zone of proximal development (ZPD) on the cognitive capability of students, which can improve the effectiveness of the teaching as well as students' learning experience.

Preliminary Results:

Patterns of Individual Thinking Performance Components





References and Acknowledgement: CHAN FCF, et. al., Qualitative Narrative Assessment of Two Dialogues at The Chinese University of Hong Kong, Submitted to https://www.cuhk.edu.hk/ctl/gefcore/assessment-projects/. The authors would like to thank the NQA core group for inspiring the current work. Many ideas were generated during the discussion when WU Jun worked as a core member of the NQA project.

P19: Understanding Students' Cognitive Complexity through a Narrative Qualitative Analysis: a Pilot Study

Presented by
Dr. Vivian Jun WU , Office of University General Education, The Chinese University of Hong Kong
Ms. Yangxian LI, School of Chinese Medicine, The Chinese University of Hong Kong

Abstract
Narrative Qualitative Analysis (NQA) was developed as the first objective (i.e. based on teacher's evaluation) and qualitative (i.e. not on Likert scales) assessment tool for the General Education Foundation (GEF) Programme from 2014 to 2017. NQA aims to evaluate and understand students' cognitive complexity by systematically analyzing students' writing assignments. A good understanding of the students' ability would help teacher cultivate an appropriate learning environment and design suitable learning activities. In NQA, the development of cognitive complexity is divided into five key steps. Correspondingly, there are five thinking performance patterns. In this poster, we will present two main results from our pilot study. First of all, by comparing the NQA result from teachers' evaluation with students' self-evaluation on their thinking performance patterns, it is discovered that students generally overate their cognitive complexity. Secondly, through a systematic NQA study on students' writing assignments, it is found that most students are clustered in the lowest two levels of thinking performance patterns. Furthermore, the study also highlights some common characteristics of students' thinking, which may provide clues for teaching improvement.

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Online Venue
Room C

Areas of Interest
Students' Capabilities II

Presenter:
Dr. Paul C. Corrigan
Senior Education Development Officer
Office of Education Development and Gateway Education

Launching the *Expert Learner Seminar Series* in Blended Learning Mode

Building on the foundation of work from previous years, in 2019 the Expert Learner Seminar Series (ELSS) was launched in blended learning mode at CityU. The aim of ELSS is to help new university students achieve their academic potential, while blended learning aims to offer students a combination of 1) face-to-face teaching and learning, as well as 2) on-line learning.

The series was held approximately over the first six weeks of Semester A, 2019.

The first seminar provided an overview of expert learning and an introduction to the topics which students would study in the series. Students also completed the Learning and Studies Strategy Inventory (LASSI) in the first session.

WEEK 1

A one-hour, face-to-face seminar was held the first week.

WEEK 2 - 6

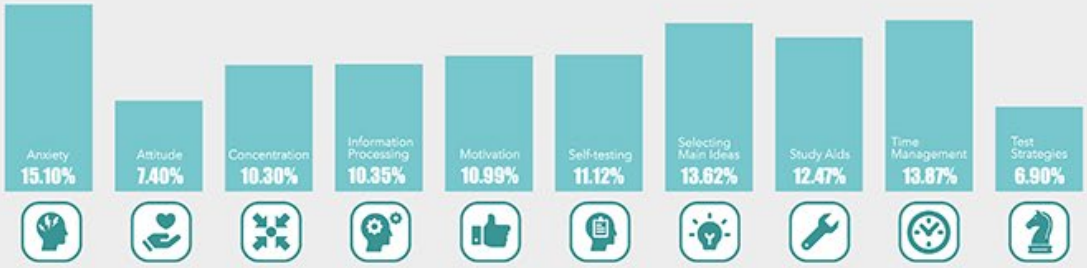
Students took part in four, on-line, video-based seminars on learning and study strategies using Canvas as a platform.

FINAL WEEK

Students met again in a face-to-face seminar for a summary and conclusion of the series and to re-take LASSI.

A total of 99 first-year undergraduate students completed the seminars, including the pre- and post- LASSI.

Overall Increase, LASSI Pre- to LASSI Post: 11.1%



As the graph shows, the pre- and post- LASSI scores increased by an average of 11.1% during that time, with significant, positive gains in each individual category of learning and studying strategies as constructed by LASSI.

U03: Launching the Expert Learner Seminar Series in Blended Learning Mode

Presented by
Dr. Paul C. CORRIGAN, Office of Education Development and Gateway Education, City University of Hong Kong

Abstract
Building on the foundation of work from previous years, in 2019 the Expert Learner Seminar Series (ELSS) was launched in blended learning mode at CityU. The aim of ELSS is to help new university students achieve their academic potential, while blended learning aims to offer students a combination of 1) face-to-face teaching and learning, as well as 2) on-line learning.
The series was held approximately over the first six weeks of Semester A, 2019. A one-hour, face-to-face seminar was held the first week. The first seminar provided an overview of expert learning and an introduction to the topics which students would study in the series. Students also completed the Learning and Studies Strategy Inventory (LASSI) in the first session. During weeks two through six, students took part in four, on-line, video-based seminars on learning and study strategies using Canvas as a platform. In the final week, students met again in a face-to-face seminar for a summary and conclusion of the series and to re-take LASSI. A total of 99 first-year undergraduate students completed the seminars, including the pre- and post- LASSI. Results of the pre- and post- LASSI will be presented in the poster.

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Online Venue
Room C

Areas of Interest
Students' Capabilities II

Lingnan University 嶺南大學 香港 Hong Kong

Service-Learning impacts on students

' learning from graduates' perspectives

Abstract

Service-Learning (S-L) is a pedagogy widely adopted by some Higher Education Institutions in Hong Kong. S-L is a combination of academic learning and meaningful service through reflection which also puts teaching and learning in a social context for facilitating socially responsible knowledge transfer (Conway, Amel & Gerwien, 2009). S-L, which reflects Lingnan's motto "Education for Service", has been integrated into the curriculum at Lingnan University since 2006. Therefore, this study was conducted to investigate the impact of S-L on whole-person and career development from the graduates' perspectives because there is only a limited body of prior studies in this area. Moreover, the findings can inform teaching and learning via S-L, on the basis of graduates' perspectives on what students need, in order to flourish in their future careers. Besides incorporating a quasi-experimental design, a mixed-method approach was adopted for the research. In the quantitative part of our research, a quota sampling approach was adopted, under which six groups of LU graduates based on their year of graduation and on whether they had undertaken S-L were invited to complete the questionnaire between June and September 2018. In total, 424 graduates with S-L experience and 416 graduates without S-L experience completed the online questionnaire. In the qualitative part of our research, a sample of interviewees was selected based on the logic of Maximum Variation Sampling. 13 graduates with S-L experience were invited to participate in a one-to-one telephone interview. Each interview was audio-recorded, transcribed, and content analyzed using grounded theory. The findings indicated that S-L experience has significant perceived impacts on the student's career choices, self-perceived research skills, and civic responsibility, which proof the S-L impacts on teaching and learning.

Background

- Lingnan University aims to provide students with skills, competences and sensibilities for pursuing their goals in society and to foster a sense of civic duty in order to prepare the students to be the future community leaders (Lingnan University, 2017)
- The Civic Engagement requirement was introduced in 2012 (Lingnan University, 2013).

Service-Learning (S-L) as a graduation requirement was implemented in 2016-17, which reflects Lingnan's motto, "Education for Service".

- S-L not only enhances students' whole person development (Nagai, 2009; Chan, Lee & Ma, 2009), but also influences students' career choices (Astin et al, 2000; Warchal & Ruiz, 2004).
- The 1st impact study have been conducted in 2012 (Ma, Chan & Chan, 2016) .

Literature Review

- Most of the S-L research in Hong Kong has focused on the impact on learning outcomes among existing undergraduate students (Chan, Ma & Fong, 2006; Chan et al., 2009; Shek, Yu, Wu & Chai, 2014; Ngai, 2009) rather than on the longer-term impacts on alumni (Ma, Chan, & Chan, 2016).
- Korfmacher's (1999) study highlighted that recommendations from alumni can maximize the benefits for instructors, institutions, and S-L researchers.

Objectives

- To investigate the impact of S-L on whole-person and career development from the graduates' perspectives

Methodology

Figure 1: A mixed-method approach was adopted for the research.

Figure 2: Research framework for the quantitative approach

Quantitative Findings

Table 1: Demographic characteristics of the experimental and comparison groups

	Experimental Group (with S-L experience)		Comparison Group (without S-L experience)		Total	
	N	%	N	%	N	%
Gender						
Male	97	22.9	149	35.8	246	29.3
Female	327	77.1	267	64.2	594	70.7
Total	424	100.0	416	100.0	840	100.0
Degree						
Arts	143	33.7	169	40.6	312	37.1
Social Sciences	125	29.5	139	33.4	264	31.4
Business	156	36.8	108	26.0	264	31.4
Total	424	100.0	416	100.0	840	100.0
Year of Graduation						
2006-2011	92	21.7	242	58.2	334	39.8
2012-2015	148	34.9	134	32.2	282	33.6
2016-2018	184	43.4	40	9.6	224	26.7
Total	424	100.0	416	100.0	840	100.0

Table 2: Patterns of career development of the experimental and comparison groups

	Experimental Group (with S-L experience)		Comparison Group (without S-L experience)		Total	
	N	%	N	%	N	%
Job Sectors						
Arts & Culture	20	4.7	13	3.1	33	3.9
Commerce & Industry	136	32.1	140	33.7	276	32.9
Community & Social Services	49	11.6	88	9.1	87	10.4
Education	95	22.4	99	23.8	194	23.1
Government	36	8.5	34	8.2	70	8.3
Public Utilities	20	4.7	14	3.4	34	4
Others	68	16	78	18.8	146	17.4
Total	424	100	416	100	840	100
Salary						
$10,000 or below	16	3.8	7	1.7	23	2.7
$10,000-19,999	243	57.3	124	29.8	367	43.7
$20,000-29,999	108	25.5	146	35.1	254	30.2
$30,000-39,999	31	7.3	83	20.0	114	13.6
$40,000-49,999	12	2.8	28	6.7	40	4.8
$50,000 or above	14	3.3	28	6.7	42	5.0
Total	424	100.0	416	100.0	840	100.0
Average Time Taken for Seeking First Job	M=2.72, SD=5.33		M=2.84, SD=4.24		M=2.78, SD=4.82	
Average Working Experience	M=42.30, SD=38.01		M=73.03, SD=44.16		M=57.50, SD=43.94	

Table 3: Independent samples t-test results between the experimental and comparison groups

	Experimental Group (with S-L experience)			Comparison Group (without S-L experience)			t-value
	N	M	SD	N	M	SD	
Whole Person Development							
Communication skills	424	7.52	1.29	416	7.43	1.45	.92
Organization skills	424	7.54	1.25	416	7.47	1.35	.77
Social Competence	424	7.68	1.27	416	7.58	1.42	1.04
Problem Solving	424	7.52	1.27	416	7.46	1.36	.66
Research skills	424	7.45	1.40	416	7.24	1.57	2.08*
Overall	424	7.55	1.13	416	7.45	1.28	1.14
Civic Responsibility							
Connection to Community	424	6.72	1.60	416	6.26	1.74	4.00***
Civic Awareness	424	6.32	1.72	416	5.76	1.85	4.54***
Civic Efficacy	424	5.98	1.86	416	5.44	2.01	4.03***
Overall	424	6.23	1.67	416	5.70	1.80	4.43***
Career Exploration							
Overall	424	6.65	1.63	416	6.33	1.76	2.72**

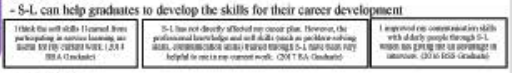
***p< 0.001; ** p< 0.01; *p<0.05

Qualitative Findings

- Important Skills for Career Development

Communication Skills (Networking)
Problem-solving Skills
Proactive Attitude

- S-L can help graduates to develop the skills for their career development



Limitations

- In the quantitive study, there were relatively fewer recent graduates in the comparison group and relatively fewer older graduates in the experimental group.
- Results are based on LU only. Most other HK universities are now adopting S-L, but our findings may not so easily generalize because other universities approach S-L in different ways.

Conclusions

- Both qualitative and quantitive study, S-L experience has significant perceived impacts on the student's choice of career path.
- S-L significantly enhances civic responsibility and average service hours. Qualitative findings indicated the soft skills (e.g. communication skills, problem solving skills and proactive attitude) developed by S-L projects are useful for graduates' current work.

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Office of Service-Learning

U04: Service-Learning Impacts on Students' Learning from Graduates' Perspectives

Presented by
Mr. Wing Fung CHAN, Office of Service-Learning, Lingnan University
Prof. Robin Stanley SNELL, Department of Management, Lingnan University

Abstract
Service-Learning (S-L) is a pedagogy widely adopted by some Higher Education Institutions in Hong Kong. S-L is a combination of academic learning and meaningful service through reflection which also puts teaching and learning in a social context for facilitating socially responsible knowledge transfer (Conway, Amel & Gerwien, 2009). S-L, which reflects Lingnan's motto "Education for Service", has been integrated into the curriculum at Lingnan University since 2006. Therefore, this study was conducted to investigate the impact of S-L on whole-person and career development from the graduates' perspectives because there is only a limited body of prior studies in this area. Moreover, the findings can inform teaching and learning via S-L, on the basis of graduates' perspectives on what students need, in order to flourish in their future careers. Besides incorporating a quasi-experimental design, a mixed-method approach was adopted for the research. In the quantitative part of our research, a quota sampling approach was adopted, under which six groups of LU graduates based on their year of graduation and on whether they had undertaken S-L were invited to complete the questionnaire between June and September 2018. In total, 424 graduates with S-L experience and 416 graduates without S-L experience completed the online questionnaire. In the qualitative part of our research, a sample of interviewees was selected based on the logic of Maximum Variation Sampling. 13 graduates with S-L experience were invited to participate in a one-to-one telephone interview. Each interview was audio-recorded, transcribed, and content analyzed using grounded theory. The findings indicated that S-L experience has significant perceived impacts on the student's career choices, self-perceived research skills, and civic responsibility, which proof the S-L impacts on teaching and learning.

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Online Venue
Room C

Areas of Interest
Students' Capabilities II

Learning to Learn

Preparing Students for a Rapidly Changing World

Miss Kevinia Cheung, Assistant Educational Development Officer,
Educational Development Centre, The Hong Kong Polytechnic University

The Challenge

We are living in a rapidly changing world where we face plenty of unexpected happenings. The knowledge and skills that we have learned today may not be able to help us handle the future tasks, problems and crises. Therefore, we need to keep learning. However, not all students are motivated to learn. And, not all students know how to learn. What can we do to help increase their learning motivation and help them learn better and more effectively?

Our Strategic Priority

In our Strategic Plan 2019/20 – 2024/25, we put down 'learning to learn' (L2L) as our strategy to tackle this challenge. Our goal is to strengthen the L2L element in the programme and subject curriculum. Through the L2L development, we hope our students will become motivated and effective learners who are able to manage their learning and adopt appropriate and effective methods to acquire knowledge and skills that can eventually help them cope with the problems in the rapidly changing world.

Our Plans

We develop a L2L model (see Figure 1) for our context based on the outputs of a comprehensive study of 523 L2L components by Cristina Stringher in 2014. In our L2L model, we focus on six dimensions: Intentional, Dispositional, Metacognitive, Affective-motivational, Cognitive and Social, with two components under each dimension. We believe this model can guide our programmes to define strategies suitable for their disciplinary context to develop our students to become better and more effective learners.

Under this model, all undergraduate programmes are expected to address the twelve L2L components in the programme and subject curriculum and create opportunities at different levels for students to develop, practice and enhance their learning ability during the entire period of their study in the university. At the same time, students are encouraged to keep a learning portfolio to document their journey of pursuing something they aspire to.

By the end of the 2024/25 academic year, all undergraduate programmes should have devised strategies for the L2L development in the curriculum, with clear information of the teaching and learning activities at the programme and subject levels to develop students' L2L ability.

Figure 1 PolyU's L2L Model

Week	Activity/ Task	Purpose/ Intended Outcome	Learning resources
1-2	Briefing	Explain to students what L2L is and why it is important to them, and go through the activities and resources to support their L2L development	L2L online module
	L2L Self-assessment	For students to rate their performance of the twelve L2L components/ attributes – it helps students understand more about themselves as a learner and it helps us collect student data before the implementation of the L2L activities	Online L2L self-assessment form
	Picture My Aspirations & My Personal Development Plan Assignments	For students to learn to set their learning goals and make plans for achieving them	Templates and L2L online module
3 & 5	Debriefing	Go through the L2L Self-assessment results and relay to students what they can do to improve their learning ability and become the master of their learning	L2L online module
		Go through their Picture My Aspirations and My Personal Development Plan submissions and point out the areas that they made mistakes or misunderstood	Templates and L2L online module
12-13	Progress Review Assignment	For students to review their progress and identify gaps	Template and L2L online module
14	My Experience Reflection Assignment	For students to reflect on their own learning experience with reference to their Personal Development Plan, and identify their strengths and weaknesses	Template and L2L online module
	L2L Self-assessment	For students to rate their performance of the twelve L2L components/ attributes again – it helps students check their performance over the semester and it helps us collect student data after the implementation of the L2L activities	Online L2L self-assessment form
	Wrap-up	Recap the L2L activities, emphasise the concepts behind, acknowledge students' achievements, and encourage students to continue the process	

Table 1 L2L Implementation Plan of the Pilot

The Pilot Study

In 2018, we launched an institutional project to pilot some activities and materials focusing on the intentional, dispositional and metacognitive dimensions with over 900 Freshman Seminar students of three Faculties: Faculty of Construction & Engineering, Faculty of Engineering and Faculty of Humanities.

We developed an implementation plan and designed some face-to-face and online activities (see Table 1) to engage students in the L2L development during the first semester of their university study.

The Pilot Study – key findings

When comparing the two sets of data of L2L self-assessment the students completed at the beginning and at the end of the semester, we find statistically significance in 8 out of the 12 L2L components, and they are: Meaning Making, Personal Beliefs about Learning, Self-Regulated Learning, Reflection on Learning, Emotion & Resilience, Higher-Order Thinking, Understanding Learning and Learning from and with Others.

Student feedback collected via our online survey shows a positive view on the usefulness of the L2L ability in students' study, life planning and future study and career. Most students find our activities and resources able to help them become a better and reflective learner.

What's Next?

The implementation of L2L development will spread from students' first year of study to other years. Funding will be allocated to support faculty members to review the curriculum and (re)design suitable teaching and learning activities or finetune the existing activities with support of the Educational Development Centre and other units to help students become effective lifelong learners.

In order to expand and increase faculty members' engagement in L2L development, we have recently set up a community of practice to get faculty members and students together to create more dialogues on teaching and learning, and engage them in action research to experiment ideas and strategies to promote and enhance the L2L development inside and outside the class. We are planning to build a virtual library of literature, ready-to-use resources, good practice cases related to L2L for documentation and sharing purposes. We are also going to organise social activities for members to exchange ideas with other participants and showcase the outcomes of their action research experience.

LEARNING TO LEARN ACADEMY
The Hong Kong Polytechnic University

LEARN²LEARN EDC The Hong Kong Polytechnic University 香港理工大學

U05: Learning to Learn: Preparing Students for a Rapidly Changing World

Presented by
Ms. Kevinia CHEUNG, Educational Development Centre, The Hong Kong Polytechnic University

Abstract
An important role of tertiary education is to prepare students for a rapidly changing world. On top of professional knowledge and skills and generic competences, PolyU finds it more important to develop and enhance students' ability to learn to learn. 'Learning to learn' (L2L) is more than just learning. It covers a range of skills in multiple domains supporting student development in understanding themselves as learners, managing their learning, devising strategies that are effective and appropriate for themselves, finding ways to improve their learning outcomes and experiences across different situations and ultimately becoming confident and effective life-long self-learners. A framework with a two-pronged approach (programme-embedded and student self-managed) to strengthen the L2L element in the programme and subject curriculum has been proposed. Eventually, all undergraduate programmes will incorporate L2L components into their curriculum to support students' L2L development across the entire period of their study.

To prepare for the implementation of the L2L framework in the 2021/22 academic year, a two-year project was launched in 2018 to pilot some contextualized activities and materials with First Year students in Freshman Seminars of three Faculties. The pilot experience provides useful information about the process and the support that programmes, faculty members and students need for L2L development.

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Online Venue
Room C

Areas of Interest
Students' Capabilities II

VIRTUAL REALITY (VR)/ AUGMENTED REALITY (AR)

Virtual and Augmented Reality for Clinical Pharmacy & Community Health Education

香港中文大學 The Chinese University of Hong Kong
Centre for Learning Enhancement And Research 學能提升研究中心
LEE VWY[1-4], NG EEN[1], LAM ASM[4]
1. Centre for Learning Enhancement And Research, 2. The Nethersole School of Nursing, 3. Office of Medical Education, 4. School of Pharmacy

Objectives

To enhance students' overall learning experience by implementing immersive virtual reality (VR) and augmented reality (AR) for teaching disease knowledge, clinical practice, and patient consultation skills.

Summary of Work

Students	Number of Students	Year of Study	AR	VR	Background	Period
Pharmacy	54	3	Yes	Yes	Conducted in a 3 units pharmacy course : PHAR 3413	Fall 2018
All Faculty of Medicine disciplines + Social Work	135	1 - 4	Yes	N/A	Conducted in 4 Service-learning preparatory training workshops	Summer 2018

Modules	1	2	3	4
AR	Post Stroke : Patient's Health Background	Post Stroke : Patient's Medication Pattern	COPD : Patient's Health Background	COPD* : Patient's Medication **Chronic Obstructive Pulmonary Disease*
VR	Heart Failure	Thromboembolic Disorder	ST-Elevation Myocardial Infarction	

Implementation	AR	VR
Content Viewing	 *AR viewing in Service-learning training workshop* *AR viewing in pharmacy course*	 *360 degrees video*
	Students had to download an AR scanning app on their mobile devices to scan and view augmented items on printed or projected photos. The items included audios, texts, drugs photos, and patient health information for students to investigate and discuss with peers.	Instead of using head mounted devices for watching VR videos. We modified virtual reality viewing format to 360 degrees spherical videos for students to watch on computers before class.

VR - Results & Findings

Pharmacy year 3 students were the only group to experience VR learning activities. We observed significant improvement on their' learning outcome according to their pre (n=38) and post (n=33) learning self evaluation.

+4.6%	+27%	+20.5%	+21.8%
Claimed the modules supported authentic learning	Understanding of heart failure	Understanding of Thromboembolic Disorder	Confident to provide consultation to patients

AR - Results & Findings

We observed unsatisfactory responses of using AR for learning from the students. Furthermore, we only asked the workshop students to conduct a retrospective AR evaluation while asked the pharmacy students to conduct a pre and post course AR evaluation.

Students attended the workshops (n=135)	41.7%	44.7%	62%
	Claimed AR was useful for case discussion with peers	Were satisfied with the use of AR in workshops	Were positive on using AR for teaching & learning activities

Pharmacy students Pre (n=50) Post (n=44)	-16%	-27%	-18%	+4%
	Disagreed that AR was useful to enhance learning	Disagreed AR supports authentic learning	Disagreed AR develops an immersive learning experience	Improved confidence to give a consultation to a post stroke patient

**Many complained the technical issues on using the mobile app in lecture hall and technical issues while scanning projected photos*

Conclusion

We have learned from students' feedback and responses on using both technologies for teaching and learning activities. Improvements on content and technical aspects are necessary for betterment when we apply the same implements in the future.

P40: Virtual and Augmented Reality for Clinical Pharmacy & Community Health Education

Presented by
Prof. Vivian Wing Yan LEE, Centre for Learning Enhancement And Research, The Chinese University of Hong Kong
Mr. Felix Yan Hin FONG, Centre for Learning Enhancement And Research, The Chinese University of Hong Kong

Abstract
Background:
Our team aimed at enhancing students' overall learning experience by implementing immersive virtual reality (VR) and augmented reality (AR) for teaching disease knowledge, clinical practice, and patient consultation skills.

Summary of Work:
We produced three VR videos for year 3 pharmacy students to learn about various types of cardiovascular diseases.

Four AR micro modules about post stroke care, and chronic obstructive pulmonary disease (COPD), were made for students of different health disciplines who participated in summer community outreach services and experienced AR during training workshops.

Summary of Result :
According to the VR evaluation, the students (n=54) responded that the modules supported authentic learning (+4.61%), They were also more familiar with heart failure (+26.99%), and acute myocardial infarction (+20.47%). Beside, their confident to provide consultation to patients were highly improved (+21.75%).

Furthermore, 62% of the students (n=135) were positive on using AR for learning. We invited year 3 pharmacy students to provide further feedbacks and they disagreed that AR was useful to enhance learning (-16%) due to technical barriers and they doubted the usefulness of AR. Nonetheless, they showed more confidence on their patient consultation skills (+4%).

Discussion & Conclusion:
Primary objective of both projects were met – we have learned from students' feedback and expectation. In addition, improvements on content and technical aspects are necessary for betterment in the learning experience.

Take-home Message:
Teaching with new technology will not only improve students' interest and motivation on complicated subjects, but it will also strengthen their learning by supporting instructional objectives.

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Online Venue
Room A

Areas of Interest
Virtual Reality (VR)/ Augmented reality (AR) I

An Innovative Anatomy Learning Tool: The combination of 3D Printing and Web Augmented Reality Technologies

Taylor Lik Hang Tang[1], Andy Wai Ho Kwok [2], Olivia Miu Yung Ngan [3] and Florence Mei Kuen Tang [4]

1. Information Technology Service Centre, The Chinese University of Hong Kong / 2. Department of Computer Sciences and Engineering, Faculty of Engineering, The Chinese University of Hong Kong
3. CUHK Centre of Bioethics, Faculty of Medicine, The Chinese University of Hong Kong / 4. School of Biomedical Sciences, Faculty of Medicine, The Chinese University of Hong Kong

Background and Objective

Anatomy is one of the crucial courses in the pre-clinical curriculum for the Medical Training Programme. Students feel easy to acquire the knowledge in the relationships of structures from the spatial visualization process rather than just through the passive learning process from dialectic lectures, e-learning material or reading. The 3D printing technology allows the replication of the plasnitated specimen without ethnical concern; whereas the Web AR technology enriches the digitized contextual information from the displayed object. Our team has investigated whether the combination of these technologies is an innovated tool for students' visual-spatial learning in Anatomy teaching.

Results and Findings

Our team developed courseware from integration both 3D Printing and Web AR technologies entitled as VeT, providing an excellent sight stimulation to study human organ, using the urinary system as a pilot module. Through the VeT tool, students can examine the model with rotation or manipulation and use the tablet OS to screen the 3D printed kidney model to gain the pop out digitized context of the internal anatomical structures in details. Students acquire the knowledge from such interactive multi-media material in positive experiential learning. The innovative activity facilities the cognitive memory via active learning effectively.

Take Home Message

The potential and affordance of the 3D Printing and Web AR technologyis being valued and extended to the strategic pedagogy in the future health professions education.

Discussion and Conclusion

From our pilot study, the VeT provides several educational implications:

a. Our team has designed the novel web AR-based experiential learning environment for health professional studying the Anatomy;

b. It bridges the interactive learning gap between the factual knowledge with text content type in the book and the 3D printed model for the flipped classroom learning and

Acknowledgement

The HKSAR UGC grant is funded for the development of the project.

Contact Information

Dr. Florence Tang (florencetang@cuhk.edu.hk)

P41: An Innovative Anatomy Learning Tool: The combination of 3D Printing and Web Augmented Reality Technologies

Presented by
Dr. Florence Mei Kuen TANG, School of Biomedical Sciences, The Chinese University of Hong Kong
Mr. Taylor Lik Hang TANG, Information Technology Services Centre, The Chinese University of Hong Kong
Mr. Andy Wai Ho Andy KWOK, Department of Computer Science and Engineering, The Chinese University of Hong Kong
Dr. Olivia Miu Yung NGAN, CUHK Centre of Bioethics, The Chinese University of Hong Kong

Abstract
Anatomy is one of the crucial courses in the pre-clinical curriculum for the Medical Training Programme. Students feel easy to acquire the knowledge in the relationships of structures from the spatial visualization process. The 3D printing technology allows the replication of the plasnitated specimen without ethnical concern; whereas the Web AR technology enriches the digitized contextual information from the displayed object. Our team has investigated whether the combination of these technologies is an innovated tool for students' visual–spatial learning in Anatomy teaching.

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From our pilot study, the VeT provides several educational implications:
(1) Our team has designed the novel web AR-based experiential learning environment for health professional studying the Anatomy; and
(2) it bridges the interactive learning gap between the factual knowledge with text content type in the book and the 3D printed model for the flipped classroom learning.

The potential and affordance of the Web AR technology is being valued and extended to the strategic pedagogy in the future health professions education.

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Online Venue
Room A

Areas of Interest
Virtual Reality (VR)/ Augmented reality (AR) I

Perfect or Imperfect Match?

Application Leap Motion Device in the Development of the Immersive Virtual Reality Simulator

Members

Dr. Florence Tang, *School of Biomedical Sciences*
Mr. Ray MF Lee, *Information Technology Services Center*
Dr. Olivia MY Ngan, *CUHK Center for Bioethics*

Backgrounds

Under the biomedical sciences curriculum, undergraduates should be training various techniques in biomedical research. Moreover, the knowledge of laboratory safety is of importance. The training in safety procedures for the handling of radioactive chemicals causes difficulty as they are hazardous and harmful to health causing the potential problem with high-risks and impacts. The students may be threatened with fatal disaster if the handling procedures are improper during the practical training.

From the application of immersive virtual reality technology (IVR), the concept of "virtual experiential learning" has become hostable for the better enhancement to students who must be well-trained for good laboratory practice and etiquettes.

Objectives and Methodology

- The pilot study was to investigate which types of virtual handling systems is helpful in stimulating students with limited laboratory experience in operation radioactive machine, preventing unpredictable accidental issues, and supporting active and constructive educational sector.
- The project was to build up innovative courseware using HTC VIVE IVR as the simulator for understanding the proper procedure to operate the gamma irradiator.
- Our team has adopted two different controlling systems for the operation, i.e. the HTC controller and the leap motion device for the virtual operation of machine.
- The target group for the pilot study was from the biomedical sciences undergraduates.

Results and Discussion

The leap-motion device system

The players grasped any virtual with they own hands. The leap motion device has been mounted on the headset, the player need to place the forearm higher for tracking the movement of the hands. However, the players are required to move around in the immersive virtual environment and they always forgot the rules for the simulation, the virtual stuff has been got lost once it was out of the detection range. They feel frustrated during the simulation process cannot really enjoy the training indeed.

The HTC controller device system

Students all agreed that the HTC controller was good enough to control the operation process but did not have any sensation of the hands-object interaction; but still, the controllers of the HTC VIVE system are definitely running well for the player to gain the experience.

Take Home Message

"The outcome of the courseware can enhance study motivation to learn and equip their necessities in the future career path. At present, the leap motion device is good in status virtual situation but may not be suitable for the IVR."

This projected is supported by the Micromodule Courseware Development Grant & Division of Education, School of Biomedical Sciences, CUHK.

P42: Perfect or Imperfect Match: Applications of the Controller and Leap Motion Device in the Development of the Immersive Virtual Reality Simulator

Presented by
Dr. Florence Mei Kuen TANG, School of Biomedical Sciences, The Chinese University of Hong Kong
Dr. Olivia Miu Yung NGAN, CUHK Centre of Bioethics, The Chinese University of Hong Kong
Mr. Ray Mau Fung LEE, Information Technology Services Centre, The Chinese University of Hong Kong
Ms. Ching Yee LEE, Department of Information Engineering, The Chinese University of Hong Kong

Abstract
The concept of "virtual experiential learning" has become hostable for the better enhancement to students who must be well-trained for good laboratory practice and etiquettes.

The project was to build up innovative courseware using HTC VIVE IVR as the simulator for understanding the proper procedure to operate the gamma irradiator. Our team has adopted two different controlling systems for the operation, i.e. the HTC controller and the leap motion device for the virtual operation of machine. The pilot study was to investigate which types of virtual handling systems is helpful in stimulating students with limited laboratory experience in operation radioactive machine, preventing unpredictable accidental issues.

During the pilot study, the focus group of biomedical sciences students played and compared the two controlling system. They all agreed that the HTC controller was good enough to control the operation process but did not have any sensation of the hands-object interaction. Regarding the leap-motion device system, it has been integrated in the IVR courseware for the motion of tracking player's hand. The leap motion device has been mounted on the headset, students need to place the forearms higher for tracking the movement of the hands. Some of the students forgot the rules that keep the hands in the detectable range during the simulation, the virtual stuff will be disappeared. However, they still enjoy the training indeed as they use their hands to gain the learning process.

To conclude, the outcome of the courseware can enhance students' motivation to learn and equip their necessities in the future career path.

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Online Venue
Room A

Areas of Interest
Virtual Reality (VR)/ Augmented reality (AR) I

Virtual Reality ★ Pediatric Nursing

- **Principal supervisor:** Wong CL & Chan WMF
- **Co-supervisor:** Ngan AHY & Ip ICN
- **Department:** The Nethersole School of Nursing, Faculty of Medicine

Objectives

(1) To maximize students' learning by allowing them to learn in their own pace with the use of the developed courseware;

(2) To support flipped classroom implementation in the course;

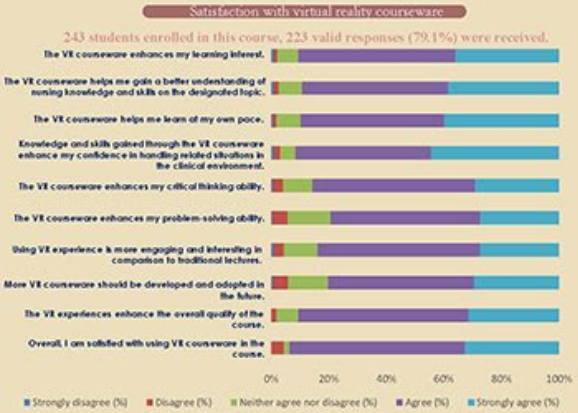
(3) To engage students in an active learning environment.

Topic

The topic was **"Pediatric intravenous infusion".**

Results

The project has been evaluated by
1. student surveys 2. teachers' reflection 3. qualitative interviews.



The 22-item Approaches to Teaching Inventory is a 5-point Likert scale (1=only rarely to 5=almost always) used to explore teachers' approaches to teaching as a measure of teaching quality.

Overall, teachers adopted various approaches in teaching this course with mean score of the items ranged from 3.50 to 5.00.

Teachers' reflection

VR promoted our engagement and increased our interest in learning in the laboratory sessions.

VR allowed us to make mistakes and learn from error.

The VR scenarios were "real" and "similar to what we encountered during clinical practicum".

22 students were recruited for qualitative interviews

Qualitative interviews

Achievements

A courseware consisted of three scenarios that covered the topic has been produced and used in the course.

Scenario 1: Pediatric intravenous infusion assessment

The objective was to equip students with foundational knowledge in conducting assessment before intravenous infusion.

Scenario 2: Problems solving during intravenous infusion

The students were required to identify factors that inhibit the intravenous infusion and to consider appropriate intervention for it.

Scenario 3: Manage complications during intravenous infusion

A pediatric client presented with complications of intravenous infusion was shown.

Students were required to identify these factors and to implement appropriate interventions to manage the complications.

Conclusions

The evaluation indicated that the project has achieved its objectives effectively and completely.

Acknowledgements & Contacts

The VR module is developed by Edvant Company Limited.

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This project is supported by Courseware Development Grant Scheme (2018-19)

P43: Virtual Reality Courseware for Pediatric Nursing

Presented by
Prof. Cho Lee WONG, The Nethersole School of Nursing, The Chinese University of Hong Kong
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Abstract
With the support from the Courseware Development Grant, an interactive virtual reality (VR) courseware that covered an important topic "Pediatric intravenous infusion" in a third-year nursing course was developed and tested. The objectives of this project were to (1) maximize students' learning by allowing them to learn at their own pace with the use of the developed courseware; (2) support flipped classroom implementation in the course; and (3) engage students in an active learning environment.

This topic was chosen because it contained a mix of knowledge and concepts, and was more appropriate to learn by engagement in problem-solving scenarios and interactive activities. On the other hand, the "presence" offered in the VR courseware provided students with an opportunity to actively participate in a simulated hospital environment. These experiences were difficult to present and describe in the lectures.

To date, the project has been evaluated through student surveys and qualitative interviews. The surveys indicated that 90.6% of the students agreed that the courseware helped them to gain a better understanding of nursing knowledge and skills on the topic. Most of them (80.1%) agreed that the courseware helped them to learn at their own pace. Findings of the qualitative interviews showed that majority of students liked the developed courseware because the VR scenarios make learning more engaging and interesting. Most importantly, these courseware helped them enhance their skills in administrating pediatric intravenous infusion.

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Online Venue
Room A

Areas of Interest
Virtual Reality (VR)/ Augmented reality (AR) I

Virtual Reality and Augmented Reality Application in Classroom Teaching and Field Study

Dr. TAM Pui Yuk Tammy[1], Mr KWOK Chi Fai Eddie[2], Miss CHU Sau Yung[1], Mr WONG Tik Sun Dickson[1]

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Introduction

In the Earth System Science Programme, a field-based course is a significant hands-on practice for students. Understanding the physical properties of minerals is fundamental for field studies. Unluckily, junior students who participated in traditional lectures may quickly lose interest in understanding the critical features of minerals as some of the mineral characteristics are complicated and hard to imagine the 3-dimension skeleton.

Besides, the current workforce is insufficient to efficiently and effectively cater to the increasing number of students for field study. This situation affects the student's initiative of learning in the classroom and studied areas. Our team believes that incorporating traditional and online teaching materials into **Augment Reality (AR) supplemental learning kit** and **Virtual Reality (VR) tours** for learning minerals and pre-trip tutorials are possible means to assist students physically and mentally ready for the classroom and on-site study.

AR supplemental learning kit

Despite no current mineralogical course, and it takes time for junior students to understand mineral features, AR supplemental learning kit can instantly display the 3-dimensional mineral skeletons. It visualizes how molecular arrangement affects the physical properties (e.g., shape, hardness) of minerals.

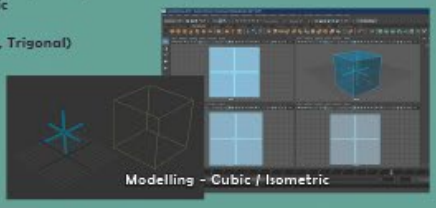
HOW it helps?

- Project the 3D molecular structures of minerals
  - Able to interact with the projection on mobile devices
- Help memorize the unique properties of minerals

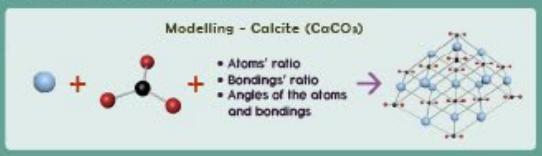
→ Enhance field study, as well as classroom and laboratory learning

Showcase – Crystal forms and Mineral

- 6 crystal forms + corresponding mineral examples:
  - Cubic / Isometric
  - Hexagonal (Rhombohedral, Trigonal)
  - Tetragonal
  - Orthorhombic
  - Monoclinic
  - Triclinic



- Structures of some common minerals
  - Calcite, Diamond, Graphite, Sodium chloride

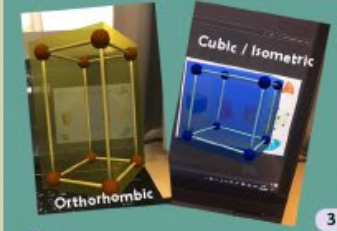


How to use?

1 Scan the trigger image

Description at the back of the card

2 3D structures shown on mobile phone



3 Use fingers to move/scale/rotate

Future development

- Specific mineral group structures
- Interactive classroom teaching: Games (using AR)
- Promoting science to the public

VR Tours

Field-based courses require intense preparation and fast learning pace in the field. Students have to gain adequate geology background and pre-trip practice. Applying advanced VR technology in classroom teaching does not only raise students' interest in learning geology via a new way; this also provides "real-scenes" of the studied areas for students to preview and review the geological features.

HOW it helps?

- Better 3D idea of the real field area
- Cartoons can explain the exact features instantly
- Always look back to the "real study area" for review
- Encourage students to get a quick preview and preparation for the field study
- More efficient way to teach and learn in the field

Showcase – Tung Ping Chau

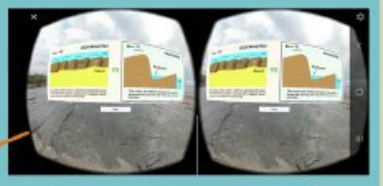
(I) Two VR360 + Two Aerial videos

A full picture of the topographic feature at Cham Keng Chau that is difficult to see in the field can be viewed via aerial video.

Detailed explanation about the geological characteristics at Cham Keng Chau in VR360 enhances both teaching and learning in the field.

(II) Two mobile apps (Android) + VR Device

VR display with graphic explanation illustrates the "real-scenes" and the coastal erosion processes at various points of the studied area at Tung Ping Chau.



Stereo 360 images shown on mobile phone

Press the button to show/hide the cartoon

Feedback from students

- Get a better idea about a geologic field study
- Very useful for the field assignments

Future development

- Hong Kong/Taiwn field study areas
- Future collaboration with other departments or universities

Acknowledgement

Teaching Development and Language Enhancement (TDLEG) for 2016-2019 Triennium (project code: 4170605)

P44: Virtual Reality and Augmented Reality Application in Classroom Teaching and Field Study

Presented by
Dr. Tammy Pui Yuk TAM, Earth System Science Programme, Faculty of Science, The Chinese University of Hong Kong
Mr. Eddie Chi Fai KWOK, Centre for eLearning Innovation and Technology , The Chinese University of Hong Kong
Ms. Sau Yung CHU, Earth System Science Programme, Faculty of Science, The Chinese University of Hong Kong

Abstract
Current syllabus of most local high schools descriptively introduces Earth System, but it lacks sufficient field practice and application of interdisciplinary knowledge. Many first-year university students thus take up a longer time to adapt to the new learning approach and some may lose interest gradually once lagging behind. Previous educational videos related to areas like field skill preparation and background of study area successfully raise student's interest and self-study initiative before the field practice. In order to raise teaching and learning effectiveness as well as student's motivation in self-learning, our team developed two preliminary platforms of Virtual Reality (VR) and one trial set of Augmented Reality (AR) teaching material. The two VR learning platforms generated with VR360 display onsite 'real' scenes with graphic explanations. Students are expected to preview and review the study areas before and after the field excursion. One set of AR material produced with Spark AR Studio consists of six major crystal forms and illustrates some of the mineral physical properties. When combining with extra VR games, the AR materials are believed to provide interactive three-dimensional chemical graphics to help students understand mineral properties that may be difficult for beginner to observe during classroom and laboratory sessions. Most of student helpers in the project, student and staff participants expressed that the VR and AR tools are very attractive and useful to stimulate student's interest in learning Earth System Science effectively and efficiently.

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Room A

Areas of Interest
Virtual Reality (VR)/ Augmented reality (AR) II

香港中文大學
The Chinese University of Hong Kong

Faculty of Medicine
The Chinese University of Hong Kong

Virtual reality: The application of genomic technology in health sciences

Background & Objectives

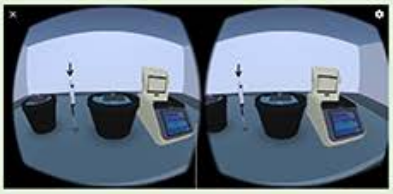
Modern genomic technologies have become one of the important tools in diagnosis and guidance in symptoms management. The technologies are commonly applied in identifying micro-organisms and viruses that further dictate specific therapeutic management or personal medicine.

In the nursing curriculum, our students will study laboratory identification of microbes. A number of modern genomic technologies have been discussed with their working principles and clinical applications. Most of our students found difficulties in understanding the principle of genomic technologies. Therefore, this project aims to develop tailor-made virtual reality games for explaining the complicated concepts and showing how the knowledge can be applied in some clinical examples.

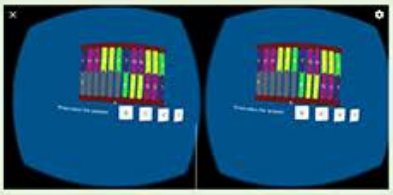
Methodology

A mobile app using virtual reality technology was designed and covered (i) 3D structures of key materials of genomic technology used in clinical applications and (ii) Working principles of genomic technology in 3D virtual reality environment. A quantitative survey was conducted to evaluate users' satisfaction based on eleven 6-point Likert-type questions.

Game 1 in the mobile app

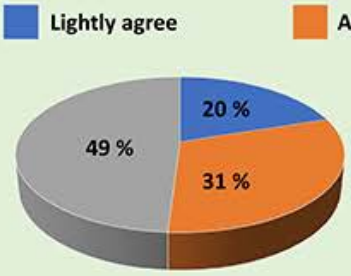


Game 2 in the mobile app

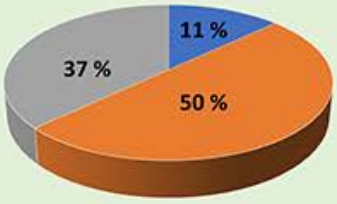


Findings

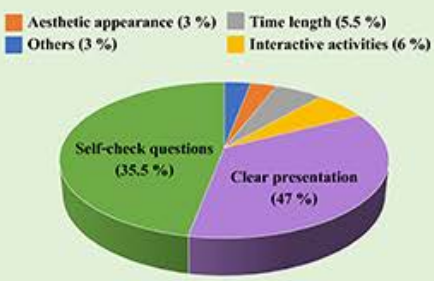
The results of the quantitative survey demonstrated that the students were satisfied with the clarity, depth and length of the content. They believed that those games were important in facilitating their learning in human genomics. Moreover, they appreciated the interactive exercises in each game. The present games were helpful to support student learning.



1. The micro-modules adequately explained the knowledge and concepts it presented.



2. The micro-modules helped you better understand the concepts and knowledge acquired in the lectures.



2. What are the three most important elements to convince you accessing those micro-modules.

Acknowledgements

We would like to thank the great support from The Nethersole School of Nursing and Information and Technology Services Center CUHK and this project was approved and supported by the Courseware Development Grant CUHK 2018-19.

P45: Virtual Reality: The Application of Genomic Technology in Health Sciences

Presented by
Dr. Ming Wai HUNG, The Nethersole School of Nursing, The Chinese University of Hong Kong

Abstract
Modern genomic technologies have become one of the important tools in diagnosis and guidance in symptoms management. The technologies are commonly applied in identifying micro-organisms and viruses that further dictate specific therapeutic management or personal medicine.

In the nursing curriculum, our students will study laboratory identification of microbes. A number of modern genomic technologies have been discussed with their working principles and clinical applications. Most of our students found difficulties in understanding the principle of genomic technologies. Therefore, this project aims to develop tailor-made virtual reality games for explaining the complicated concepts and showing how the knowledge can be applied in some clinical examples.

A mobile app using virtual reality technology was designed and covered (i) 3D structures of key materials of genomic technology used in clinical applications and (ii) Working principles of genomic technology in 3D virtual reality environment. A quantitative survey was conducted to evaluate users' satisfaction based on eleven 6-point Likert-type questions.

The results of the quantitative survey demonstrated that the students were satisfied with the clarity, depth and length of the content. They believed that those games were important in facilitating their learning in human genomics. Moreover, they appreciated the interactive exercises in each game. The present games were helpful to support student learning. We expect that those virtual reality games can also be used by other courses offered in the Faculty of Medicine at The Chinese University of Hong Kong.

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Online Venue
Room A

Areas of Interest
Virtual Reality (VR)/ Augmented reality (AR) II

VIRTUAL REALITY TRAIL OF PLANT LEARNING IN CUHK

Ming Leuk YAU, Tin Hang WONG, Yat Sum CHENG, Ho Lam WANG, Yiu Man CHAN, Kwan Ho WONG, Tin Yan SIU, David Tai Wai LAU

胡秀英植物標本館
SHIU-YING HU HERBARIUM

CONTACT / ENQUIRY:

Dr. David Tai Wai LAU

Shiu-Ying Hu Herbarium, School of Life Sciences, CUHK

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PLANT LEARNING FEATURES

1. Flowers
2. Fruits
3. Trunk
4. Leaves
5. Root
6. Overview

SCAN TO EXPLORE

OBJECTIVES

1. Provide a virtual, immersive and virus-free alternative plant learning experience to all users
2. Generate unlimited teaching and learning possibilities by collecting and displaying botanical information
3. Promote flipped classroom, self-learning and general science teaching
4. Provide trainings to students for their future career development

SELECTED SITES AND PLANTS

Virtual Reality Trail of Plant Learning in CUHK aims to provide virtual plant learning routes showing various kinds of natural or urban habitats. Selected sites include United College of CUHK, Herbal garden and Alumni Trail of CUHK, and Tai Wan(大環) in Sai Kung(西貢). On each site, common plant species of ecological, economical, horticultural or medicinal value are tagged with interactive hotspots. Currently, the United College route is firstly produced.

United College

10 SPECIES

Herbal Garden & Alumni Trail

10 SPECIES

Tai Wan, Sai Kung (西貢大環)

20 SPECIES

COURSEWARE INTERFACES

- The VR trails of plant learning in CUHK is a free-to-access Web App supporting both computer and smartphone users. It is an innovative e-learning tool for students and public users to learn plant knowledge by viewing a 360-degree virtual plant learning trail. With the help of VR goggles and smartphone, users can even experience Virtual Reality learning.
- We will provide different modules for users to explore. In each module, users can click on different interactive hotspots to achieve various functions, for example, to view plant photos, to switch location, to view our prepared 360 walkthrough video, and to visit external websites. We aim to provide immersive experience for users to enjoy a virtual field trip without limitation from bad weather, any physical factors and COVID-19.
- On each trail, we provide at least 10 selected plant species, with plant photos, factsheets and dedicated questions to achieve the knowledge sharing with users after playing this Web App.

Choose a device and visit the Web App. Select a plant learning trail.

Follow the instructions to explore the plant learning trail. Scroll to zoom and drag to look around.

Click on different location hotspots to switch viewpoints.

Click the hotspot keys on the tree tag hanging on the selected trees.

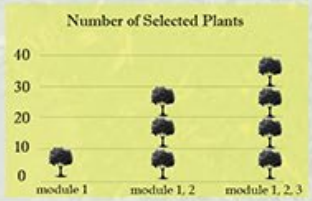
View the plant name, plant photos, factsheet websites and question pages.

Visit the factsheet page for more detail of the selected plant species.

Powered by Theasys

OUTCOME AND SUSTAINABILITY

The Virtual reality trail of plant learning in CUHK can be implemented in different university courses. In 2020-2021 academic year, the beta test of this courseware will be run in CUHK courses BIOL 3022, BIOL 3570 and BIOL 4510. Students' comments will be collected for the courseware improvement. In the future, more interactive elements and more plant learning trails will be launched.



VIRTUAL REALITY EXPERIENCE

Users can experience virtual reality plant learning by using VR goggles and smartphone with built-in gyroscope.

COURSEWARE FUNDED BY: TEACHING DEVELOPMENT AND LANGUAGE ENHANCEMENT GRANT 2019-2022

P46: Virtual Reality Trail of Plant Learning in CUHK

Presented by
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Mr. Kwan Ho WONG, Shiu-Ying Hu Herbarium, School of Life Sciences, The Chinese University of Hong Kong
Ms. Tin Yan SIU , Shiu-Ying Hu Herbarium, School of Life Sciences, The Chinese University of Hong Kong
Dr. David Tai Wai LAU, Shiu-Ying Hu Herbarium, School of Life Sciences, The Chinese University of Hong Kong

Abstract
Environment education is an important part of education in Universities, but it is always limited by bad weather, insects, safety and epidemic situations such as the outbreak of COVID-19. Hence, we designed an e-learning courseware called Virtual Reality Trail of Plant Learning in CUHK for everyone to have a virtual field trip to experience plants and nature. In our courseware, we will establish three learning routes with the information of on-site plant species. We will present a demonstration version on our first trail, which is the United College of CUHK. This courseware is a free-to-access Web App for all kind of users.

In the courseware, users are brought to a view of 360-degree virtual plant learning trail. They can click the interactive hotspots to switch location points, to view plants photos and to browse external website of plant factsheets. Most of the selected plant species will be enriched with high quality plant photos. Therefore, users can view the close-up photos of various parts of the plants. With all the courseware information, users can learn plants and their habitats even at home, which is different from the traditional face-to-face teaching approach of plant learning.

This courseware is also developed with Virtual Reality technology, users can therefore enjoy a more exciting and realistic plant learning experience using VR goggles. In the future, we will be making more plant learning trails and will be putting more interactive elements into our courseware for a new era of e-teaching and learning in CUHK.

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Online Venue
Room A

Areas of Interest
Virtual Reality (VR)/ Augmented reality (AR) II

Supervisors:
Dr. Crusher Wong
Senior Manager (e-Learning)
Office of the Chief Information Officer

Presenter:
Dr. Luk Bing Lam
Laboratory Manager
Department of Mechanical Engineering

Poster Designer:
Ms. Angel Lu
Instructional Designer
Office of the Chief Information Officer

Ms. Kayla Lam
Information Technology Officer
Office of the Chief Information Officer

Flipped Learning: Virtual Reality for Gateway Educationn Course

INTRODUCTION

A flipped classroom approach was adopted in a Gateway Education course of Science & Technology from the support of a cross-university UGC project fund. It is the first VR course to reveal the internal structure of the 46-meter Electric Wind Turbine in Hong Kong. Our IT officer had to undergo a full-day training to pass the Construction Industry Safety Training Test before shooting any aerial footage with the drone and capturing 360° photos. Only green safety card holders were permitted to enter the structure as it was considered a dangerous construction site.

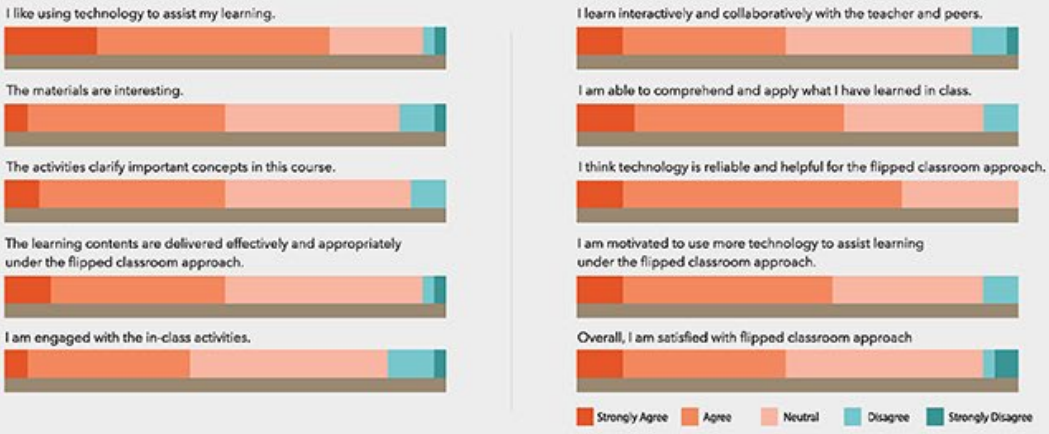
IN-CLASS LEARNING

Students of the course were required to take a virtual reality (VR) field trip to Lamma Winds, the first commercial-scale wind turbine in Tai Ling built by HK Electric, to better understand how electricity can be produced from wind energy. The flipped classroom activity is to facilitate understanding of the complex mechanism of the wind turbine drive train for electricity generation. Such enjoyable and immersive online learning experience was made accessible via students' smartphones.

FACE-TO-FACE LEARNING

A face-to-face class including a traditional lecture and a Q & A session followed. In order to achieve the intended learning outcomes, an in-class group presentation exercise was held in the following week.

FEEDBACK FROM STUDENTS



Students were asked to respond to a pre-class and post-class survey about their flipped learning experience. Of 38 responses to the post-class flipped survey, 73% of them supported using technology to assist their learning and agreed that technology is reliable and helpful for the flipped classroom learning. Two-thirds felt an enhancement in their ability to comprehend and apply what they learned in class, and more than a half of the respondents were motivated to use more technology to assist their learning under the flipped classroom approach.

Enquiries:
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Visit VREWT website :
https://www.cityu.edu.hk/smartclass/vrewt.html

U08: Flipped Learning: Virtual Reality for Gateway Education Course

Presented by
Dr. Bing Lam LUK, College of Engineering, City University of Hong Kong
Dr. Crusher WONG, Senior Manager (e-Learning), Office of the Chief Information Officer, City University of Hong Kong
Ms. Angel LU, Office of the Chief Information Officer, City University of Hong Kong
Ms. Kayla LAM, Office of the Chief Information Officer, City University of Hong Kong

Abstract
A flipped classroom approach was conducted with a Gateway Education course on Science & Technology from the support of a cross-university UGC project fund. Before class, students of the course were required to take a virtual reality (VR) field trip to Lamma Winds, the first commercial-scale wind turbine in Tai Ling built by HK Electric, to better understand how electricity can be produced from wind energy. The flipped classroom activity is to facilitate the students to understand the complex mechanism of the wind turbine drive train for electricity generation. A face-to-face class including a traditional lecture, a Q & A session and an in-class group presentation exercise followed to achieve the intended learning outcomes.

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Room A

Areas of Interest
Virtual Reality (VR)/ Augmented reality (AR) II

Use of VR technology to enhance students' understanding of residents living in subdivided units

Prof. Timothy Leung Yuk Ki[1], Mr. Wong Kon Chi[1], Mr Kwok Chi Fai Eddie[2], Mr. Ngai Kei[1], Mr. Chan Siu Ming[1]

Department of Social Work[1], Centre for eLearning Innovation And Technology[2]

Abstract

Social work emphasises the understanding of persons in an systemic ecological perspective when assessing clients' family situations. Nonetheless, practical difficulties exist in the process of contextualisation, such as the spatial stress of bringing a class of students to visit a subdivided unit. It would be burdensome for the residents to receive such visits. The use of virtual reality (hereby VR) technology provides an experiential way of understanding the living milieu of marginal group, reducing the burden of residents when receiving visits from students, saving time and traveling costs. The VR micro module is now used in our Casework course, community work course and even service learning general education course, enhancing perspective awareness of students and empathetic understanding of marginal groups.

Second, the VR documentary would be used as a component of our flipped classroom, preparing students for in-depth learning, allowing more time for discussion and reflection in class which extends the learning beyond classroom teaching.

Third, VR technology provides the entire class an opportunity to engage in direct dialogue with the resident, which is more than actual home visits, where only around 5 students per class having this opportunity. VR technology provides larger groups of students a chance to have direct contact with the residents in their living milieu simultaneously. As the students can have a 360 degree vision of the living environment using Google cardboard, students found the experiences more engaging and gained a deeper understanding about the limited space available to the residents. Further, they can observe how residents have to scale seven stories when returning to their subdivided cubicle.

Approaches

(1) Flipped classroom: VR videos would be used as background material for students to watch in their own time before the class, preparing students for classes focusing on how to conduct case assessment and understand the needs and problems encountered by residents.

(2) Live discussion: In class, another VR video of the same case would be utilized for further analysis enabling deeper understanding of the client's situation and learn how to conduct case formulation.

(3) E learning assignment: A second case study in animation format would be used for students to apply what they have learnt in class. Google classroom and google form would be used to assess whether students successfully utilized knowledge taught in class.

Evaluation

This exploratory study found that students enjoy the VR learning, and consider the approach stimulating and engaging, helping them to learn case assessment and understanding needs and problems of marginal groups.

Data highlights

All respondents 'prefer' or 'strongly prefer' the new flipped and blended learning approach

76.9% of respondents 'strongly agreed' that interaction and engagement was enhanced in small-class format, with the rest agreeing to this statement

All students 'strongly agree' or 'agree' that their understanding on assessment has been enhanced.

Quotes from students

"Using VR really made lessons interactive"

"Allows intense learning in one specific topic and facilitates more interaction "

Remarks: This project is jointly developed by Department of Social Work and ELITE in using VR technology to enhance teaching effectiveness.

P47: Use of VR Technology to Enhance Students' Understanding of Residents Living in Subdivided Units

Presented by
Mr. Eddie Chi Fai KWOK, Centre for eLearning Innovation and Technology , The Chinese University of Hong Kong
Prof. Timothy Yuk Ki LEUNG, Department of Social Work, The Chinese University of Hong Kong
Mr. Kon Chi WONG, Department of Social Work, The Chinese University of Hong Kong
Mr. Kei NGAI, Department of Social Work, The Chinese University of Hong Kong
Mr. Siu Ming CHAN, Department of Social Work, The Chinese University of Hong Kong

Abstract
Social work emphasized the understanding of person in environment perspective in assessment of client's family situation. Yet, it would be difficult to bring a class of students to visit a subdivided unit. It would be burdensome for the residents to receive a number of visits. The use of VR technology provides an experiential way of understanding the living milieu of marginal group reducing burdens of residents to receive visits from students, saving time and traveling costs. Using VR technology combining flipped classroom format enhanced teaching effectiveness and participation of students.

Approaches
(1) Flipped classroom: VR videos would be used as background materials for students to watch at their own time before the class preparing students for class learning how to conduct case assessment and understand the needs and problems encountered by residents.
(2) Live discussion: In class, another VR video of the same case would be utilized in class for further analysis enabling students to have a more in depth understanding of client's situation and learn how to conduct case formulation.
(3) E learning assignment: A second case study using animation format would be used for students to apply what they have learnt in class. Google classroom combining google form would be used to assess whether students can utilize the knowledge being taught in class.
Exploratory study finds out that students enjoy the VR learning, consider the approach stimulating and engaging, helping them to learn case assessment and understanding needs and problems of marginal groups more effectively.

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Areas of Interest
Virtual Reality (VR)/ Augmented reality (AR) III

Using VR Technology to facilitate Real Estate Education

Project supported by: CUHK Courseware Development Grant 2018-2019

Dr. Cynthia Hou
School of Hotel and Tourism Management

Abstract

Although widely adopted in industry and business practices, technology-led innovation appears being applied rather slowly in the tertiary real estate education. Using a recent experimental case in a real estate program from CUHK, this study focuses on the design, development and implementation of an innovative teaching model with VR integration. The study reports the student feedbacks towards the teaching innovation and identifies role and benefits of VR technology in real estate education. Findings from the study have implications for future global real estate industry practice and education.

1. Introduction

It is increasingly realised that new technology facilitates innovative thinking and new knowledge is critical to high quality tertiary education. With an experimental case of a real estate course using VR technology, this study aims to explore the following interrelated questions: (1) what are students' perceptions of integrating VR technology in real estate course and curriculum? (2) what are VR technology's role and benefits in real estate education in terms of subject design and delivery to influence critical thinking, effective learning, and connection to actual practices?

2. Methology

- Case study as the main research approach

  Case study is adopted as the main research approach in this study and an experimental real estate course is used as a case to examine the effectiveness of VR technologies and students' perception regarding VR technologies in real estate course learning process. An innovative teaching model id designed to guide the course design and implementation.

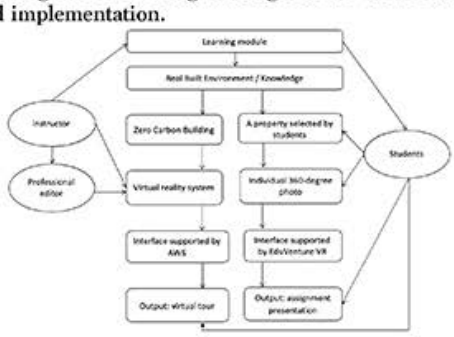

Figure 1. An innovative teaching model integrated with VR technology

- Keller's ARCS model and students' perception evaluation

  The virtual site visit (organised in one lecture) supported by the VR system was designed based on Keller's ARCS (1987a) model. ARCS stands for attention, relevance, confidence and satisfaction. ARCS model guides educators to design teaching activities or materials that can (1) catch and sustain students' attention; (2) relate to students' needs; (3) ensure students that they are able to master the knowledge / skills successfully; (4) assist students to have a sense of achievement and pride (Keller, 1987a). The ARCS model requires a satisfaction survey regarding the students' acceptance of the teaching material. Thus, a satisfaction survey was conducted to assess students' satisfaction level regarding the virtual site visit.

3. Design and Delivery of a VR-enhanced Real Estate Subject from Hong Kong

Figure 2. Demonstration of the model development and student engagement

4. Students' Perception

Table 1. Questionnaire instruments and results for satisfaction survey

Questionnaire instrument	Mean	Std. Deviation	Number of students
1. Sense of achievement post VR material viewing	3.50	.933	24
2. Interest development due to enjoyment of the VR material.	3.29	.690	24
3. Appreciation of the VR material as supplementary in the course	3.96	.955	24
4. Creation of a sense of meaningfulness through the VR experience.	3.54	1.062	24
5. Personal enjoyment due to opportunity to view the VR material.	3.83	.963	24
6. Enjoyment of the VR material for its elaborating design.	3.83	1.007	24

Table. 2 Range of satisfaction level

		Level of satisfaction				Cronbach's Alpha	Mean
		High	Upper medium	Medium	Low		
Satisfaction (6 items)	Scores	4.0-5.0	3.5-3.99	3.0-3.49	<3.00	.769	3.66
	No. of students	9	8	4	3		
	Percentage	37.5%	33.3%	16.7%	12.5%		

Table 1 and 2 indicates students' satisfaction level of the virtual site visit. The Cronbach's Alpha is 0.769, which indicates that the 6 questions have relatively high internal consistency. As Table 1 shows, the highest score is question 3 (M=3.96), and the lowest score is in question 2 (M=3.29). Table 2 shows that 37.5% of students have a high satisfaction level and 33.3% of students' satisfaction level is between 3.5 and 3.99, falling in an upper medium level. 12.5% of students have a low level of satisfaction towards the virtual site visit. It indicates that students were overall satisfied with the virtual site visit.

P48: Using VR Technology to Facilitate Real Estate Education

Presented by
Dr. Cynthia Huiying HOU, School of Hotel and Tourism Management , The Chinese University of Hong Kong

Abstract
Technology has been emphasised for its critical role in real estate education just after the rise of computer and internet technology in the turn of the 21st century. The use of virtual reality (VR) technology is rapidly expanding to facilitate customer experience and reduce operating cost in the real estate industry. Using an experimental course design and delivery in a real estate course under a business school environment in CUHK, this paper shows the design, development and implementation of an innovative teaching model with the support of VR technology. The results of this study show that VR technology can assist the development and enhancement of student's sense of value as well as improving communicative efficiency of property investigation and analysis of the trade process.

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View **Video**

Online Venue
Room A

Areas of Interest
Virtual Reality (VR)/ Augmented reality (AR) III

Virtual Field Trip Platform for Online Teaching-Learning Enhancement: Yim Tin Tsai Island as a Site of Tourism Education

Prof. Johnson Chung Shing Chan
Department of Geography and Resource Management
The Chinese University of Hong Kong

Video here!

Background

- The COVID-19 **pandemic** has caused **suspension** of in-class **lecturing** and outdoor **field trips**. This issue largely affects the teaching-learning process of many tourism-related courses, which require field experience to enhance learning and development of students. To cope with such need for **off-site field investigation**, an interactive and sustainable virtual field trip platform is necessary for transforming the crisis of teaching-learning into an **innovative** opportunity for tourism education.

Objectives

1. To produce a Virtual Reality (**VR**) and Augmented Reality (**AR**) interactive field trip platform for YTT; and
2. To allow students to conduct virtual trips to YTT out of classrooms

Deliverables: Special Features and Functions

- **Themes** (Catholic **religion**, Hakka **culture** and **ecology**) for resource revitalization and destination development.
- **Innovative features** including VR-based self-paced tours, attraction selection function, pop-up questions for discussion and a set of AR-driven features about the main attractions, stories and history of YTT

1. Download the app
2. Scan the image

Significance in e-Learning and Teaching-Learning Enhancement

- Platform utilized across **UGC-funded** tourism, geography, resource management and general education **courses**
- **Integration** of field trips, location-based study and VR/AR applications
- The **role of teachers** as both lecturers to deliver knowledge and facilitators of interactive class or online discussions without any geographical, weather or resource constraints

Expected Outcomes

- "**Study from Home**" and incorporation with Zoom and other online teaching modes
- Comparison between onsite field trips and virtual field trips – **Research potential** on advantages and disadvantages
- Stimulation of **learning interests**
- In-class or online **discussions** about the site
- More options for onsite field trips in addition to virtual trips
- **KPIs**: Student feedback and comments

3. Videos, e-book, 3D images

(This project is supported by Special Funding Scheme for Online Learning, Teaching Development and Language Enhancement Grant (TDLEG) for the 2019-22 Triennium; Project code: TDLEG-GEO-4170695)

P49: Virtual Field Trip Platform for Online Teaching-learning Enhancement: Yim Tin Tsai Island as a Site of Tourism Education

Presented by
Prof. Johnson Chung Shing CHAN, Department of Geography and Resource Management, The Chinese University of Hong Kong

Abstract
The COVID-19 pandemic has caused suspension of in-class lecturing and outdoor field trips. This issue largely affects the teaching-learning process of many tourism-related courses, which require field experience to enhance learning and development of students. To cope with such need for off-site field investigation, an interactive and sustainable virtual field trip platform is necessary for transforming the crisis of teaching-learning into an innovative opportunity for tourism education.
This project takes Yin Tin Tsai (YTT) in Sai Kung, Hong Kong as its site for a Virtual Reality (VR) and Augmented Reality (AR) interactive field trip platform. YTT has three different thematic features (the Catholic religion, Hakka culture and ecology) for resource revitalization and destination development. The platform allows students to conduct virtual trips to YTT through innovative features such as VR-based self-paced tours, attraction selection, e-learning of questions-and-answers, user-friendly sharing of visitor experience, and more importantly, a set of AR-driven features about the main attractions and history of YTT. This project is of high relevance to teaching-learning enhancement and will be constructive when the platform is utilized across UGC-funded tourism, geography, resource management and general education courses. The project integrates field trips, location-based study and VR/AR applications. Teachers are both lecturers to deliver knowledge and facilitators of interactive class or online discussions without any geographical, weather or resource constraints.

View **Poster**
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Online Venue
Room A

Areas of Interest
Virtual Reality (VR)/ Augmented reality (AR) III

Team Members:
Mr. Tarloff S. W. IM
Office of Education Development and Gateway Education

Mr. Frankie FAN
Office of Education Development and Gateway Education

Mr. Lin LI
Department of Chinese and History

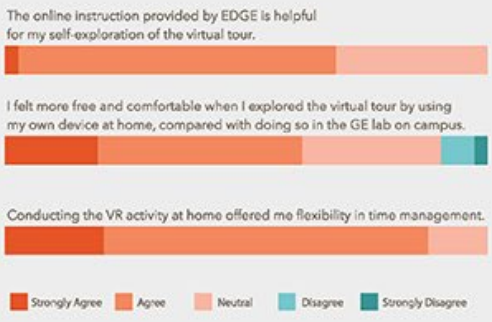
Mr. Leo CHIU
Office of Education Development and Gateway Education

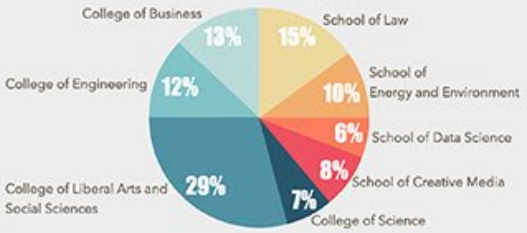
Using Virtual Reality Technology to Enhance Chinese Architectures Learning

This project reports the learning activities through using VR technologies are designed to enhance the learning experiences of undergraduate studies in Arts and Humanities.

Students are required to navigate the Wooden Pagoda of Fogong Temple at Shanxi Province (1056 A.D.) virtually to accomplish specific tasks.

In general, participants report that the learning approaches with VR content have stimulated their learning interests to investigate more architectural knowledge related to Chinese architecture.





This piloted project was implemented to engage students in using an immersive environment to support General Education (GE) module - Architecture and Space in Chinese Culture and a flipped classroom strategy with self-learning and peer-learning pedagogies are adopted accordingly.

The findings and results of acceptance level using VR in teaching and learning supports were presented in IEEE International Conference on Teaching, Assessment, and Learning for Engineering (TALE) in December 2018, the paper was selected as the Outstanding Paper Award.

In conclusion, students are pleased with the way of implementing VR technologies to support more GE module.

U09: Using Virtual Reality Technology to Enhance Chinese Architectures Learning

Presented by
Mr. Tarloff S. W. IM, Office of Education Development and Gateway Education, City University of Hong Kong
Mr. Lin LI, Department of Chinese and History, City University of Hong Kong
Mr. Frankie FAN, Office of Education Development and Gateway Education, City University of Hong Kong
Mr. Leo CHUI, Office of Education Development and Gateway Education, City University of Hong Kong

Abstract
This project reports a flipped classroom strategy using VR technologies to support General Education (GE) module - Architecture and Space in Chinese Culture. The learning activities through the immersive environment are designed to enhance the learning experiences of undergraduate studies in Arts and Humanities. Students are required to navigate the Wooden Pagoda of Fogong Temple at Shanxi Province (1056 AD) virtually to accomplish specific tasks. In general, participants report that the learning approaches with VR content have stimulated their learning interests to investigate more architectural knowledge related to Chinese architecture. In conclusion, students are pleased with the way of implementing VR technologies to support more GE module.

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Online Venue
Room A

Areas of Interest
Virtual Reality (VR)/ Augmented reality (AR) III

POSTER AWARDS

THE LIST OF AWARDEES

PEOPLE'S PRIZE

The Video Conference System Facilitates Synchronous Teaching and Learning in

Anatomy Education

itsc

Authors

Dr. Florence Mei Kuen Tang, School of Biomedical Sciences, CUHK
Dr. Wai Kai Wong, School of Biomedical Sciences, CUHK
Dr. Olivia Miu Yung Ngan, CUHK Center for Bioethics
Mr Ray Mau Fung Lee, Information and Technology Services Center
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Mr Justin Chak Ting Cheung, School of Biomedical Sciences

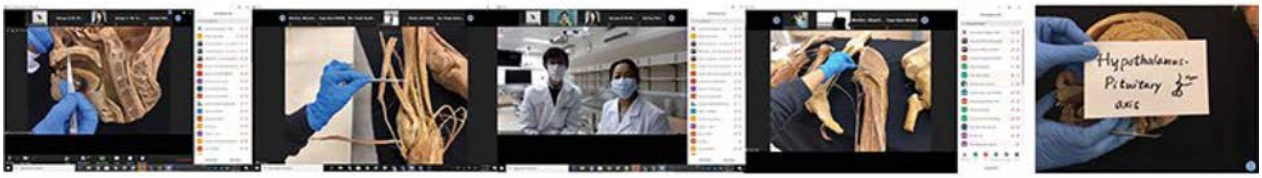
Contact: Dr. Florence Mei Kuen Tang florencetang@cuhk.edu.hk 3943 6836

Background

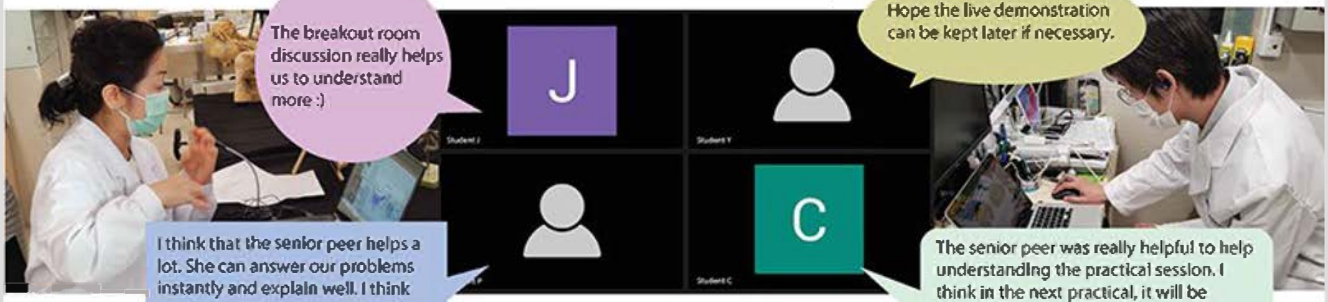
Anatomy, a subject requires hands-on practicum, is unprecedentedly challenged by the restriction of face-to-face teaching in light of the pandemic. The Video conferencing system (VCS), such as the CUHK's adopted Zoom platform, is a real-time network connecting remote participants from different locations for interactive communication. It is a good alternative for subjects that requires didactic lectures only but might not be a realistic option for anatomy teaching and learning.

Objectives

This presentation describes 1) the challenges in modifying teaching materials that suit for online medium and 2) a teaching strategy in inviting senior peers from medicine (MBChB) and biomedical sciences programs to join the session with junior students from the biomedical engineering and pharmacy programs for discussion of the potential clinical relevance with their learning in anatomical structures.



Student Voices After the Zoom Practical

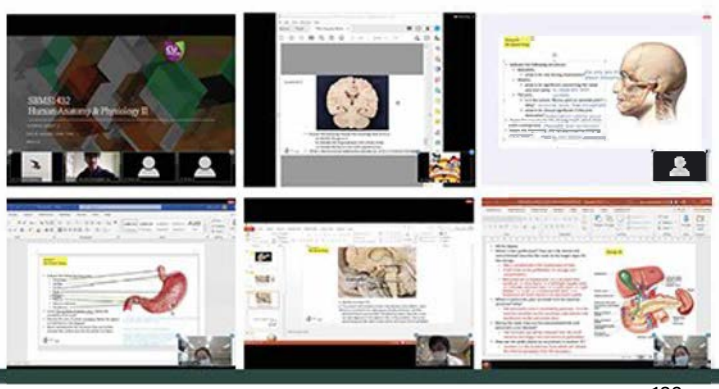


Discussions

Our experience and students' feedback showed that stakeholders overcome the limitation with some concerns. Compared with face-to-face teaching, the demand for teaching preparation for online is neither easy nor light but challenging at another escalated level. It requires a multiple-disciplinary effort in preparing video shooting ahead of the real-time class. On-sites challenges were encountered, including spatial examination of plantinated specimens, didactic interpretation of the anatomical structures and the clinical significance concerned about the structures.

Take Home Message

As this is the first time to run the practical zoom activity, there still have rooms for the improvements. Maybe teacher-in charge should not just one-way to conduct the contents of the learning material; students should do participate the discussion interactively; and more importantly, the internet connection should be stable.



P37: The Video Conference System Facilitates Synchronous Teaching and Learning in Anatomy Education

Presented by
Dr. Florence Mei Kuen TANG, Division of Education, School of Biomedical Sciences, The Chinese University of Hong Kong
Dr. Wai Kai WONG, School of Biomedical Sciences, The Chinese University of Hong Kong
Dr. Olivia Miu Yung NGAN, CUHK Center for Bioethics, The Chinese University of Hong Kong
Mr. Ray Mau Fung LEE, Information and Technology Services Center, The Chinese University of Hong Kong
Mr. Jack Kwan Ho LAI, School of Biomedical Sciences, The Chinese University of Hong Kong
Mr. Fredrick Wai To CHOI, School of Biomedical Sciences, The Chinese University of Hong Kong
Miss Yanny Wing Yan WONG, Faculty of Medicine, The Chinese University of Hong Kong
Mr. Justin Chak Ting CHEUNG, School of Biomedical Sciences, The Chinese University of Hong Kong

Abstract
Anatomy, a subject requires hands-on practicum, is unprecedentedly challenged by the restriction of face-to-face teaching in light of the pandemic. The Video conferencing system (VCS), such as the CUHK's adopted Zoom platform, is a real-time network connecting remote participants from different locations for interactive communication. It is a good alternative for subjects that requires didactic lectures only but might not be a realistic option for anatomy teaching and learning.

This presentation describes 1) the challenges in modifying teaching materials that suit for online medium and 2) a teaching strategy in inviting senior peers from medicine (MBChB) and biomedical sciences programs to join the session with junior students from the biomedical engineering and pharmacy programs for discussion of the potential clinical relevance with their learning in anatomical structures.

Our experience and students' feedbacks showed that stakeholders overcome the limitation with some concerns. Compared with face-to-face teaching, the demand for teaching preparation for online is neither easy nor light but challenging at another escalated level. It requires a multiple-disciplinary effort in preparing video shooting ahead of the real-time class. On-sites challenges were encountered, including spatial examination of plantinated specimens, didactic interpretation of the anatomical structures, the discussion of clinical significance related to the structure and stability of the internet connection. Regarding this pilot study, there still have rooms for the improvements.

View **Poster**
View **Video**

Online Venue
Room B

Areas of Interest
Online Teaching II

POSTER AWARDS - POSTERS FROM CUHK

DeepMind and Beyond:

Using Machine Learning to teach an Artificial Intelligence anatomy for medical education

SEE Christopher [1], LI Yalsin Yik Sum [2], LAM Cynthia Sin Nga [2], POON Hong Kit Sam [1],
WAI Sen Mun Maria [1], LAU Wing Sze Josephine [1], CHAN Lap Ki [3], CHAN Sun On Hector [1]

1. School of Biomedical Sciences, Faculty of Medicine, CUHK
2. LKS Faculty of Medicine, The University of Hong Kong
3. Faculty of Medicine, Macau University of Science and Technology, Macau

1. Introduction

In the COVID-19 era of distance learning, Artificial Intelligence (AI) agents conversing through dialogue systems offer a way to capture an important pedagogy; the **individual student-teacher discussion**. In order to achieve this, the first step is training the AI on the subject matter to be discussed.

Customising open-source AI tools from Google's DeepMind, we attempted to answer the **research question** - *"Can we train an AI to discuss human anatomy via Machine Learning?"*

2. Methods

- To develop our Artificial Intelligence Support System (AISS) Anatomy Bot, we created **a web application** and used multiple different modules to relay prompts and responses in order to build a controlled yet smart chatbot. Models used in the AISS bot includes BERT with a question-answering head pre-trained with SQUAD2.0 dataset, an open source tool.
- We constructed a **customised training database** of anatomical information linked to the UK Anatomy Syllabus for Medical Graduates (Smith et al 2016) and trained our AI agent using Machine Learning in Microsoft's Azure ML environment.
- A subset of the research team **including students** independently formulated questioned to pose to the AI and typed them via a dialogue interface in our app.
- The AI gave an answer with an associated confidence value, and these were reviewed by a **separate panel of experienced anatomy teachers**.

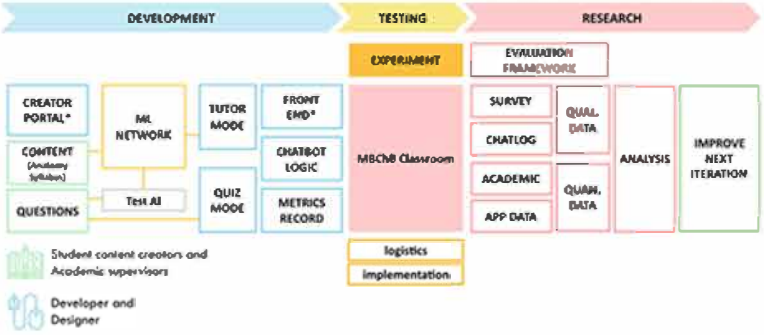


Fig 1: The research and development pipeline of AISS Bot development and evaluation

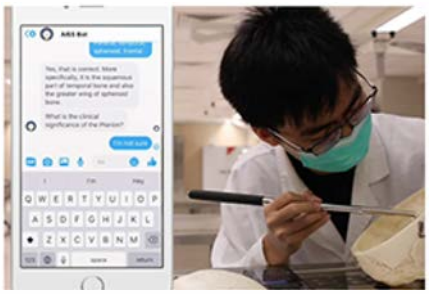


Fig 2.. Snapshot of the AISS Bot user interface

3. Results

The confidence values ranged from 0.56 to 0.70, indicating the degree to which the algorithm thinks its answer is correct. All of the questions were assessed to have been answered correctly by the anatomy teaching panel (N=15/15, 100%), **despite no explicit programming of questions or answers.**

Example Q&A Dialogue:

Student: What is epigastric vessel lateral to?
AISS BOT:: The deep ring of the inguinal canal.
Student: What's the use of the mid-point of the inguinal ligament?
AISS BOT:: It identifies the opening of the inguinal canal.
Student: What is the clinical significance of the inguinal canal then?
AISS BOT:: It can form potential weakness in abdominal wall and act as hernia sites.

4. Discussion & Conclusion

- For any digital learning application to be successful, it must **accurately understand the questions** posed to it by students.
- Mobile-based applications, courseware or learning games can be effective but are **limited** by the ability of the designers to **predict dialogue** or **give a limited pool of options** for students to select.
- **Truly intelligent AI agents** like ours have the potential to change this completely. This pilot study has demonstrated the ability to train a conversational agent which was able to handle questions of the type seen everyday teaching.
- **Unexpected questions**, simple spelling and grammatical errors posed no issue for the AI, as they do in non-intelligent systems.
- There are limitations to this study which is a work in progress, including the training of the AI against a limited amount of information and a relatively small subset of questions.
- Ongoing work is aimed at broadening of the scope of anatomy database upon which the AI has been trained, and **engaging real students in using the AI for learning.**

AISS
Artificial Intelligence Support System

This work is kindly supported by a
Teaching Development and Language Enhancement Grant

CU Medicine
香港中文大學醫學院
Faculty of Medicine
The Chinese University of Hong Kong

P34: DeepMind and Beyond: Using Machine Learning to Teach an Artificial Intelligence Anatomy for Medical Education

Presented by
Dr. Christopher SEE, School of Biomedical Sciences, The Chinese University of Hong Kong
Mr. Yalsin Yik Sum LI, LKS Faculty of Medicine, The University of Hong Kong
Ms. Cynthia Sin Nga LAM , LKS Faculty of Medicine, The University of Hong Kong
Dr. Sam Hong Kit POON, School of Biomedical Sciences, The Chinese University of Hong Kong
Dr. Maria Sen Mun WAI, School of Biomedical Sciences, The Chinese University of Hong Kong
Dr. Josephine Wing Sze LAU, School of Biomedical Sciences, The Chinese University of Hong Kong
Prof. Lap Ki CHAN, Faculty of Medicine, Macau University of Science and Technology
Prof. Hector Sun On CHAN, School of Biomedical Sciences, The Chinese University of Hong Kong

Abstract
In the COVID-19 era of distance learning, Artificial Intelligence (AI) agents conversing through dialogue systems offer a way to capture an important pedagogy; the individual student-teacher discussion. In order to achieve this, the first step is training the AI on the subject matter to be discussed.

Customising open-source AI tools from Google's DeepMind, we attempted to answer the research question; 'Can we train an AI to discuss human anatomy via Machine Learning?'

Methods

The research team constructed a customised training database of anatomical information linked to the UK Anatomy Syllabus for Medical Graduates and trained an AI agent using Machine Learning.

A subset of research team members independently formulated questioned to be posed to the AI and typed them via a dialogue interface. The AI gave an answer with an associated confidence value, and these were reviewed by a separate panel of experienced anatomy teachers.

Results:

The confidence values ranged from 0.56 to 0.70, indicating the degree to which the algorithm thinks its answer is correct. All of the questions were assessed to have been answered correctly by the anatomy teaching panel (N=15/15, 100%), despite no explicit programming of questions or answers.

Discussion

This pilot study has demonstrated the ability to train a truly intelligent AI agent which was able to handle a variety of question formulations, the like of which may be encountered in day to day teaching. Unexpected questions, simple spelling and grammatical errors posed no issue for the AI, as they might do in other non-intelligent systems.

View **Poster**
View **Video**

Online Venue
Room B

Areas of Interest
Online Teaching I

Remarks from Judges of the Poster Award:

- **The smart chat-bot provides valuable hints and answers to students for self-learning.**
- **There is a high potential of development with the database of smart chat-bot grows.**

Flipped Online Laboratory for Making the Students' First Robot

Dongkun Han, and Martin Leung
Department of Mechanical and Automation Engineering, CUHK

How can we conduct Hands-on training under COVID 19?

- Hands-on skills are essential learning outcomes of engineering courses.
- Students used to gaining their hands-on skills in the real lab with kinds of facilities and lab kits.

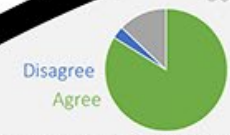
- COVID 19 prevents students from labs.
- Online demonstration cannot provide an effective way for hands-on training.

Key Features of Flipped Online Laboratory

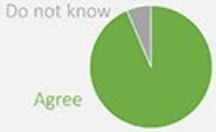
- Key feature 1: Use remote control technique and Arduino-based programming for robot developing.
- Key feature 2: Generate micro-modules and implement flipped lab.

Online lab (synchronous) + Flipped lab (asynchronous)

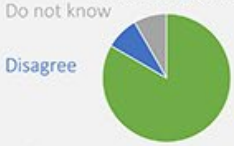
Feedback from students



The micro-modules provide me useful information before my experiments.



Overall, I like the teaching pedagogy of flipped online laboratory.



The flipped online lab helps me to understand the basic concepts of robots.

Thanks to the online lab, I can enjoy the process of controlling a robotic arm online effectively.

The generated micro-modules make the process of building robotic arm very easy.

I found it is really interesting to control a robotic arm online.

I still cannot believe that I built a robotic arm by using the online lab.

Acknowledgement

This project is supported by TDLEG Special Funding Scheme for Online Learning from the Chinese University of Hong Kong. We appreciate the help and active participation from all students of UGEB2303 Robots in Action in term 2, 2019-2020.

香港中文大學 The Chinese University of Hong Kong
學能提升研究中心 Centre for Learning Enhancement And Research
itsc Information Technology Services Centre
Department of Mechanical and Automation Engineering 機械與自動化工程學系

P35: Flipped Online Laboratory for Making Students' First Robot

Presented by

Abstract
Hand-on skills training is an essentially significant component of many engineering courses, like robotics, electronics, mechanics and renewable energy. A major concern in online/distance engineering education is how can we overcome the problems associated with laboratory components of courses. In this proposal, a new eLearning pedagogical approach called flipped online laboratory is proposed and expected to be used in teaching robotics. The basic underlying idea is that an online (synchronous) laboratory could be conducted with the help of flipped (asynchronous) laboratory instructions for making students' first robot. An online robotic laboratory, on the one hand, is planning to be constructed based on our real robotic laboratory with real robots and corresponding computers. The conventional robotic laboratory can be transformed to an online laboratory thanks to the cross platform remote control technique, where students could use their personal computers in distance to control the computers in the lab, further tuning and controlling the robot in real time. In this way, some distinct advantages to students could be cherished by avoiding healthy problems and safety problems compared to conventional labs. On the other hand, this proposal combines with flipped laboratory, which allows students to learn from videos of laboratory instructions before each online lab at their convenience. As a result, more efforts could be devoted into problem solving and students-instructor interaction in synchronous online laboratory. The method will demonstrate its effectiveness in the existing course (UGEB2303 Robots in Action) where students without technical background could build and manipulate their first robot via the flipped online robotics laboratory.

View **Poster**
View **Video**

Online Venue
Room B

Areas of Interest
Online Teaching I

Remarks from Judges of the Poster Award:

- **Remotely controlled robotic arms can facilitate laboratory education in distance learning.**
- **The remote lab can handle some procedural and repetitive skills training, and when face-to-face teaching is allowed, more time can be used for more complicated experiment for advanced practical skills learning.**

Use of VR technology to enhance students' understanding of residents living in subdivided units

Prof. Timothy Leung Yuk Ki[1], Mr. Wong Kon Chi[1], Mr Kwok Chi Fai Eddie[2], Mr. Ngai Kei[1], Mr. Chan Siu Ming[1]

Department of Social Work[1], Centre for eLearning Innovation And Technology[2]

Abstract

Social work emphasises the understanding of persons in an systemic ecological perspective when assessing clients' family situations. Nonetheless, practical difficulties exist in the process of contextualisation, such as the spatial stress of bringing a class of students to visit a subdivided unit. It would be burdensome for the residents to receive such visits. The use of virtual reality (hereby VR) technology provides an experiential way of understanding the living milieu of marginal group, reducing the burden of residents when receiving visits from students, saving time and traveling costs. The VR micro module is now used in our Casework course, community work course and even service learning general education course, enhancing perspective awareness of students and empathetic understanding of marginal groups.

Second, the VR documentary would be used as a component of our flipped classroom, preparing students for in-depth learning, allowing more time for discussion and reflection in class which extends the learning beyond classroom teaching.

Third, VR technology provides the entire class an opportunity to engage in direct dialogue with the resident, which is more than actual home visits, where only around 5 students per class having this opportunity. VR technology provides larger groups of students a chance to have direct contact with the residents in their living milieu simultaneously. As the students can have a 360 degree vision of the living environment using Google cardboard, students found the experiences more engaging and gained a deeper understanding about the limited space available to the residents. Further, they can observe how residents have to scale seven stories when returning to their subdivided cubicle.

Approaches

(1) Flipped classroom: VR videos would be used as background material for students to watch in their own time before the class, preparing students for classes focusing on how to conduct case assessment and understand the needs and problems encountered by residents.

(2) Live discussion: In class, another VR video of the same case would be utilized for further analysis enabling deeper understanding of the client's situation and learn how to conduct case formulation.

(3) E learning assignment: A second case study in animation format would be used for students to apply what they have learnt in class. Google classroom and google form would be used to assess whether students successfully utilized knowledge taught in class.

Evaluation

This exploratory study found that students enjoy the VR learning, and consider the approach stimulating and engaging, helping them to learn case assessment and understanding needs and problems of marginal groups.

Data highlights

All respondents 'prefer' or 'strongly prefer' the new flipped and blended learning approach

76.9% of respondents 'strongly agreed' that interaction and engagement was enhanced in small-class format, with the rest agreeing to this statement

All students 'strongly agree' or 'agree' that their understanding on assessment has been enhanced.

Quotes from students

"Using VR really made lessons interactive"

"Allows intense learning in one specific topic and facilitates more interaction "

Remarks: This project is jointly developed by Department of Social Work and ELITE in using VR technology to enhance teaching effectiveness.

P47: Use of VR Technology to Enhance Students' Understanding of Residents Living in Subdivided Units

Presented by
Mr. Eddie Chi Fai KWOK, Centre for eLearning Innovation and Technology , The Chinese University of Hong Kong
Prof. Timothy Yuk Ki LEUNG, Department of Social Work, The Chinese University of Hong Kong
Mr. Kon Chi WONG, Department of Social Work, The Chinese University of Hong Kong
Mr. Kei NGAI, Department of Social Work, The Chinese University of Hong Kong
Mr. Siu Ming CHAN, Department of Social Work, The Chinese University of Hong Kong

Abstract
Social work emphasized the understanding of person in environment perspective in assessment of client's family situation. Yet, it would be difficult to bring a class of students to visit a subdivided unit. It would be burdensome for the residents to receive a number of visits. The use of VR technology provides an experiential way of understanding the living milieu of marginal group reducing burdens of residents to receive visits from students, saving time and traveling costs. Using VR technology combining flipped classroom format enhanced teaching effectiveness and participation of students.

Approaches
(1) Flipped classroom: VR videos would be used as background materials for students to watch at their own time before the class preparing students for class learning how to conduct case assessment and understand the needs and problems encountered by residents.
(2) Live discussion: In class, another VR video of the same case would be utilized in class for further analysis enabling students to have a more in depth understanding of client's situation and learn how to conduct case formulation.
(3) E learning assignment: A second case study using animation format would be used for students to apply what they have learnt in class. Google classroom combining google form would be used to assess whether students can utilize the knowledge being taught in class.
Exploratory study finds out that students enjoy the VR learning, consider the approach stimulating and engaging, helping them to learn case assessment and understanding needs and problems of marginal groups more effectively.

View **Poster**
View **Video**

Online Venue
Room A

Areas of Interest
Virtual Reality (VR)/ Augmented reality (AR) III

Remarks from Judges of the Poster Award:

- **It is meaningful to use VR to help students to immerse in the environment and to arouse their affection to understand and empathize with the residents living in the subdivided unit.**

Learning Chemistry via "Science Mobile"

Prof. Michael KWONG, Dr. Wing Fat CHAN, Dr. Yu San CHEUNG

Department of Chemistry

To promote ubiquitous learning in Chemistry, "Science Mobile" is introduced and implemented into courses for students. Until June 2020, over 550 Chemistry learning topics have been uploaded to the platform. The learning topics cover a wide range of contents including the introduction and operation of common analytical instruments, demonstrations of experimental techniques and some basic chemical knowledge in daily life.

To promote students to learn science across the boundaries of disciplines, we focus on ubiquitous learning to promote knowledge integration from different sub-disciplines in Chemistry. The objects are embedded into different learning pathways and modules, which allow students to appreciate the connections between scientific concepts and applications. QR codes, barcodes and RFID tags can be scanned to access the learning objects to achieve ubiquitous learning.

A number of learning objects in the formats of videos, photos, textual descriptions, and webpages are produced under three important themes in Chemistry:

(i) food, drugs and organic chemistry,

(ii) traditional and modern materials, and

(iii) chemical analytic methods and their applications in society.

Learning Modules

Learning modules are available to allow students explore more about the objects. The materials are sort by topics or courses and allow students to search for information in a systematic manner. Assessments are also available for students to assess their understanding after reading the pages.

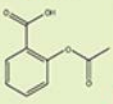
Examples of learning modules:

- Analytical Instruments
- CHEM3820 Organic Chemistry Laboratory III
- UGEB2440 Chemistry of meat

Food, Drugs and Organic Chemistry

Examples of the learning objects:

- Apartame (E951)
- Aspirin
- Carbohydrates
- Coca-cola Zero
- Gelatinization of starch



Examples of the learning modules:

- Basic Chemistry
- Beverages
- Food additives
- Common over-the-counter drugs

Financial Support of this Project:

UGC Teaching and Learning Related Funding (2016-2019)

Traditional and Modern Materials

Examples of the learning objects:

- Gold alloy
- Plasticizers
- Polyethylene
- Polyvinyl chloride
- Polymerization reactions: addition and condensation

Examples of learning modules:

- Ceramics
- Examples and uses of polymers
- Examples and uses of alloys (being developed)

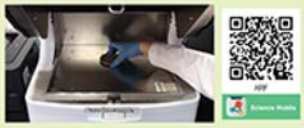
Chemical Analytic Methods and their Applications in Society

Examples of the learning objects:

- Electromagnetic radiation
- Infrared spectroscopy (IR)
- NMR: Aniostropic effect
- Simple distillation
- XRF: Analysis of a Chinese bronze mirror

Examples of the learning modules:

- CHEM3870 Analytical Chemistry Laboratory II
- Basic laboratory techniques
- Schlenk technique



Summary of deliverables:

Until June 2020, around 90% of the learning objects have been prepared so far, and the rest are being produced. The finished learning objects are being uploaded to the e-learning platform. By the end of December 2020, all learning objects will be prepared and uploaded to the e-learning platform.

The learning platform is being introduced into a number of science major and general education courses, examples are:

- CHEM2820 Organic Chemistry Laboratory I
- CHEM3810 Organic Chemistry Laboratory II
- CHEM3870 Analytical Chemistry Laboratory II
- UGEB2420 Chemistry in the Kitchen
- UGEB2440 Chemistry of Food and Drinks

Science Mobile

Download on the App Store

GET IT ON Google Play

P60: Learning Chemistry via "Science Mobile"

Presented by
Dr. Kendrew Kin Wah MAK, Department of Chemistry, The Chinese University of Hong Kong
Prof. Fuk Yee KWONG, Department of Chemistry, The Chinese University of Hong Kong
Dr. Wing Fat CHAN, Department of Chemistry, The Chinese University of Hong Kong
Dr. Yu San CHEUNG, Department of Chemistry, The Chinese University of Hong Kong

Abstract
To promote ubiquitous learning in Chemistry, "Science Mobile" is introduced and implemented into courses for students. A number of learning objects in the formats of videos, photos, textual descriptions, and webpages are produced under three important themes in Chemistry: (i) food, drugs and organic chemistry, (ii) traditional and modern materials, and (iii) chemical analytic methods and their applications in society. Until October 2019, over 260 Chemistry learning objects have been created and they will be uploaded to the platform. The learning objects cover a wide range of contents including the introduction and operation of common analytical instruments, demonstrations of experimental techniques and some basic chemical knowledge in daily life. To promote students to learn science across the boundaries of disciplines, we focus on ubiquitous learning to promote knowledge integration from different sub-disciplines in Chemistry. The objects are embedded into different learning pathways and modules, which allow students to appreciate the connections between scientific concepts and applications. QR codes, barcodes and RFID tags can be scanned to access the learning objects to achieve ubiquitous learning.

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Online Venue
Room B

Areas of Interest
Apps and Tools

Remarks from Judges of the Poster Award:

- **We see continuous development of platform which now provides high potential of usage in different disciplines and make an impact on society.**

POSTER AWARDS - POSTERS FROM SISTER UNIVERSITIES

Case Teaching and Learning for Social Science and Public Policy Education

Dr. James K. WONG, Vivien Pong, Joanna Yu

Division of Social Science & Division of Public Policy, HKUST

Engaging students with experiential learning in social science and public policy

The case method is a student-centered pedagogy that emphasizes in-depth and active learning, helping students make meaningful connections between textbook knowledge and real-life scenarios. Students learn how to analyze and explain social phenomena and recommend solutions to resolve decision dilemmas in public policy.

Milestones

Case Development Program

In 2017-18, a team of professional case developers took on the challenge to create the first batch of teaching cases under the guidance of faculty advisors. These cases covered a variety of social science or public policy issues of Hong Kong. Selected cases were used in five undergraduate and postgraduate classes as well as a case competition.

Class Activities

The following activities were used to facilitate the study of the cases:

- Case presentations
- Poster presentations
- Group discussions
- Debates

HKUST Inter-University Public Policy Case Competition 2019

Thirty-eight student teams from 7 higher education institutions competed for the championship. They analyzed policy cases, devised solutions for resolving policy dilemmas, and presented recommendations to a panel of policy experts.

Survey Feedback

Project Outcomes	*Overall Satisfaction with Learning through Case Study Method / Case Competition*
Case teaching in five undergraduate and postgraduate classes	4.35 out of 5 (n=105)
HKUST Inter-University Public Policy Case Competition 2019	4.1 out of 5 (n=67)

Project members:
Prof. Xun WU, Prof. Kira MATUS, Prof. Gerald R. PATCHELL, Prof. Naubahar SHARIF

Acknowledgement:
This project is funded by the Teaching Development Grant (#99H) and supported by the Center for Education Innovation of HKUST

U06: Case Teaching and Learning for Social Science and Public Policy

Presented by
Ms. Joanna YU, Division of Social Science, The Hong Kong University of Science and Technology
Ms. Vivien PONG, Division of Social Science, The Hong Kong University of Science and Technology
Prof. James K. WONG, Division of Social Science & Division of Public Policy, The Hong Kong University of Science and Tec

Abstract
Case teaching and learning provides an excellent opportunity to engage students with experiential learning. While the case method is not a new pedagogy, its applications tend to be restricted to business, legal and medical education. At the same time, case studies focusing on Hong Kong are in short supply in the textbook market. While it is easier to motivate students to learn using local case studies, instructors may find it costly to create them from scratch.

This poster aims to report the observations from a Teaching Development Grant project conducted at the Hong Kong University of Science and Technology in 2018-19 – "Case Teaching and Learning for Social Science and Public Policy Education" (099H). It demonstrates: (1) how local case studies were developed; (2) how they were used for classroom teaching and outside-classroom learning; and (3) how students perceived the case learning experience.

We conclude that, while there is room for improvement in its implementation, the case pedagogy creates a largely positive impact on students for learning social science and public policy at both undergraduate and postgraduate levels.

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Online Venue
Room A

Areas of Interest
Pedagogical Advancement I

Remarks from Judges of the Poster Award:

- **An impressive idea of developing new local cases teaching in public policy and social science, as experiential learning is essential.**

Lingnan University 嶺南大學 香港 Hong Kong

Developing the 'Reacting to the Past' Teaching Methodology at Lingnan and in Asia

Abstract:

This project evaluates the potential of the "Reacting to the Past" (RTTP) method of game-based learning which is not well-known in Asia, and attempts to contribute to student achievement in the History Department and potentially in the broader university community. The RTTP methodology employs active role-playing, in which students assume the identities of historical figures and argue persuasively from these assumed perspectives. The Principal Project Supervisor (PPS) has trialed RTTP in her previous project, with very encouraging results: student participation and student critical and analytical capabilities were enhanced. These outcomes relate directly to History programme Intended Learning Outcomes (ILOs).

The current project expands upon the PPS's previous project and will unfold in several steps. First, History instructors and other interested Lingnan faculty will be trained in the RTTP methodology. The PPS and Co-supervisors will then pilot RTTP in selected History courses, collect data on student achievement in History ILOs. The project will culminate in a regional RTTP conference which will explore how game-based methods may contribute to history curricula and more broadly to undergraduate education at universities in Asia. At present, the project is progressing well. After fully implementing in history course(s), the useful elements have been applied to the Lingnan's new flagship Global Liberal Arts Programme. The PPS expects to incorporate the project findings into a module and to teach this module in a broad-based teaching conference for Asia in 2020.

■ Principal Project Supervisor

Professor CHOU, Grace Ai-ling
Department of History

■ Co-Supervisors
Professor LEMBERG Diana, Lucy, Department of History
Professor PIANCIOLA Niccolò, Department of History

U07: Developing the "Reacting to the Past" Teaching Methodology at Lingnan and in Asia

Presented by
Prof. Grace Ai-ling CHOU, Department of History, Lingnan University
Prof. Diana Lucy LEMBERG, Department of History, Lingnan University
Prof. Niccolò PIANCIOLA, Department of History, Lingnan University

Abstract
This project evaluates the potential of the "Reacting to the Past" (RTTP) method of game-based learning which is not well-known in Asia, and attempts to contribute to student achievement in the History Department and potentially in the broader university community. The RTTP methodology employs active role-playing, in which students assume the identities of historical figures and argue persuasively from these assumed perspectives. The Principal Project Supervisor (PPS) has trialed RTTP in her previous project, with very encouraging results: student participation and student critical and analytical capabilities were enhanced. These outcomes relate directly to History programme Intended Learning Outcomes (ILOs).

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View **Poster**
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Online Venue
Room A

Areas of Interest
Pedagogical Advancement II

Remarks from Judges of the Poster Award:

- **Innovative pedagogy applied in a meaningful context with high demonstrated results. The strategy is aligned with the higher-order learning outcomes.**
- **Role-play motivates students to share their views.**

Supervisors:
Dr. Crusher Wong
Senior Manager (e-Learning)
Office of the Chief Information Officer

Presenter:
Dr. Luk Bing Lam
Laboratory Manager
Department of Mechanical Engineering

Poster Designer:
Ms. Angel Lu
Instructional Designer
Office of the Chief Information Officer

Ms. Kayla Lam
Information Technology Officer
Office of the Chief Information Officer

Flipped Learning: Virtual Reality for Gateway Educationn Course

INTRODUCTION

A flipped classroom approach was adopted in a Gateway Education course of Science & Technology from the support of a cross-university UGC project fund. It is the first VR course to reveal the internal structure of the 46-meter Electric Wind Turbine in Hong Kong. Our IT officer had to undergo a full-day training to pass the Construction Industry Safety Training Test before shooting any aerial footage with the drone and capturing 360° photos. Only green safety card holders were permitted to enter the structure as it was considered a dangerous construction site.

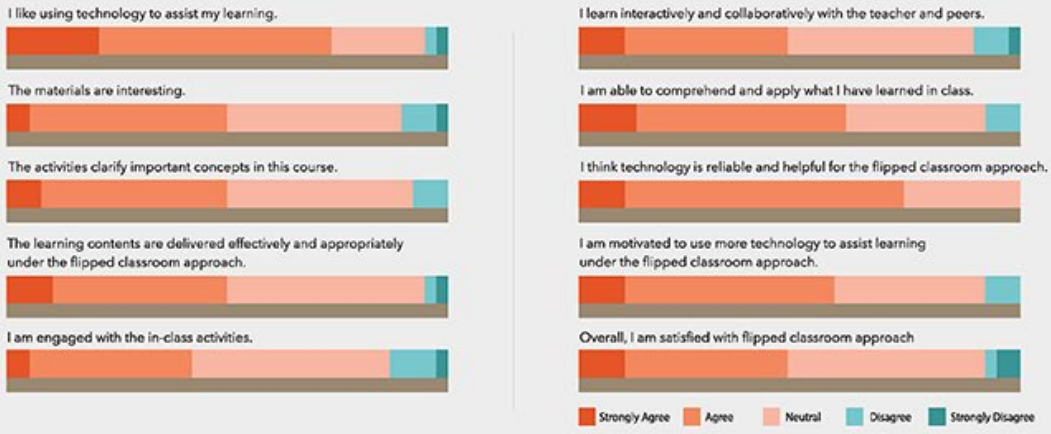
IN-CLASS LEARNING

Students of the course were required to take a virtual reality (VR) field trip to Lamma Winds, the first commercial-scale wind turbine in Tai Ling built by HK Electric, to better understand how electricity can be produced from wind energy. The flipped classroom activity is to facilitate understanding of the complex mechanism of the wind turbine drive train for electricity generation. Such enjoyable and immersive online learning experience was made accessible via students' smartphones.

FACE-TO-FACE LEARNING

A face-to-face class including a traditional lecture and a Q & A session followed. In order to achieve the intended learning outcomes, an in-class group presentation exercise was held in the following week.

FEEDBACK FROM STUDENTS



Students were asked to respond to a pre-class and post-class survey about their flipped learning experience. Of 38 responses to the post-class flipped survey, 73% of them supported using technology to assist their learning and agreed that technology is reliable and helpful for the flipped classroom learning. Two-thirds felt an enhancement in their ability to comprehend and apply what they learned in class, and more than a half of the respondents were motivated to use more technology to assist their learning under the flipped classroom approach.

Enquiries:
Office of the Chief Information Officer
Tel: 3442 6727 / Fax: 2628 2651 / Email: elearn@cityu.edu.hk

Visit VREWT website :
https://www.cityu.edu.hk/smartclass/vrewt.html

U08: Flipped Learning: Virtual Reality for Gateway Education Course

Presented by
Dr. Bing Lam LUK, College of Engineering, City University of Hong Kong
Dr. Crusher WONG, Senior Manager (e-Learning), Office of the Chief Information Officer, City University of Hong Kong
Ms. Angel LU, Office of the Chief Information Officer, City University of Hong Kong
Ms. Kayla LAM, Office of the Chief Information Officer, City University of Hong Kong

Abstract
A flipped classroom approach was conducted with a Gateway Education course on Science & Technology from the support of a cross-university UGC project fund. Before class, students of the course were required to take a virtual reality (VR) field trip to Lamma Winds, the first commercial-scale wind turbine in Tai Ling built by HK Electric, to better understand how electricity can be produced from wind energy. The flipped classroom activity is to facilitate the students to understand the complex mechanism of the wind turbine drive train for electricity generation. A face-to-face class including a traditional lecture, a Q & A session and an in-class group presentation exercise followed to achieve the intended learning outcomes.

View **Poster**
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Online Venue
Room A

Areas of Interest
Virtual Reality (VR)/ Augmented reality (AR) II

Remarks from Judges of the Poster Award:

- **The use of VR is integrated in the course design with associated activities in and outside classrooms. High quality development with impressive resources being built.**

POSTER COMMENDATION - POSTERS FROM CUHK

INTRODUCTION

This project aims at providing students with visual learning resources that enhance their understanding of the linguistic properties of sign languages. Unlike spoken languages, sign languages are visual-gestural in nature, with space and facial expressions playing an essential role in the grammatical system. Students with minimal prior knowledge of sign language often face difficulties in learning how to compare sign and spoken language mechanisms, and how to analyze sign language data from a linguistic perspective.

TANG, Wai Lan Gladys
Centre for Sign Linguistics and Deaf Studies
Department of Linguistics and Modern Languages
The Chinese University of Hong Kong
E-mail: gtang@cuhk.edu.hk

MICRO-MODULE COURSEWARE DEVELOPMENT FOR LING 2303 SIGN LANGUAGE STUDIES

1 TEACHING STRATEGIES

FOUR MICRO-MODULES PRODUCED

- Each micro-module includes a video (~8 minutes).
- Placed on the platform of Blackboard together with an online quiz.
- Discussions about the video contents in the class.

2 MODULE 1

UNDERSTANDING HEARING LOSS

- This module covers the hearing mechanism, types of hearing loss and how they affect the linguistic needs of a deaf person.
- Graphics and animations are produced.

3 MODULE 2

MODES OF COMMUNICATION

- This module compares and contrasts different modes of communication with video examples of:
- Natural sign language, Manually coded spoken language, Fingerspelling, Cue speech, Tactile signing, etc.

4 MODULE 3

SIGN LANGUAGE GRAMMATICAL SYSTEM

- This module provides examples to illustrate grammatical properties of sign language at different linguistic levels.

5 MODULE 4

HOW TO PREPARE SIGN LANGUAGE DATA AND USE SIGN LINGUISTICS RESEARCH TOOL

- This module demonstrates the techniques necessary for capturing sign language data with camcorders, digitizing sign language videos, and annotating sign language data.
- Annotation of sign language data uses ELAN, a research tool widely used for analyzing video data.

6 EVALUATION

A QUESTIONNAIRE DESIGNED TO ELICIT OPINIONS FOR CONTENT CLARITY AND PACE OF DELIVERY

- The questionnaire will require the students to rate their user experience and the effectiveness of using the micro-modules.
- Feedback showed that the micro-modules have met the expectations of the students, with or without knowledge of sign language.

7 DIFFUSION

THE MICROMODULES WILL BE USED AT CONFERENCES AND WORKSHOPS, AS WELL AS CURRICULAR PLANNING

- If translated into Chinese with a voice track in Cantonese and Putonghua, the micromodules can be adopted for training programmes in China or Taiwan.

IMPACT

The micromodules are excellent resources for UGE2923 Exploring Sign Language and Deaf Communities, and the top-up BA degree programme in Bimodal Bilingual Studies.

Micromodule 1 'Understanding hearing loss' is ideal for parents or teachers education as well as training programmes for professionals.

Micromodule 4 'How to process SL data using a SL research tool' will be used for postgraduate level training, for students interested in learning how sign language can be systematically transcribed and analysed for academic and professional purposes.

Micro-Module Courseware Development

Department of Linguistics and Modern Languages

P04: Micro-Modules Courseware Development for LING 2303 Sign Languages Studies

Presented by
Prof. Gladys Wai-lan TANG , Department of Linguistics and Modern Languages, The Chinese University of Hong Kong
Mr. Ka Yiu CHENG
Mr. Aaron WONG
Ms. Brenda YU
Mr. Pippen WONG
Ms. Connie LO

Abstract
This project aims at providing students with visual learning resources that enhance their understanding of the linguistic properties of sign languages. Unlike spoken languages, sign languages are visual-gestural in nature, with space and facial expressions playing an essential role in the grammatical system. Students with minimal prior knowledge of sign language often face difficulties in learning how to compare sign and spoken language mechanisms, and how to analyze sign language data from a linguistic perspective.
Visual learning resources demonstrating sign linguistic concepts and the skills essential for analyzing sign language data are produced. Areas covered include (a) understanding hearing loss; (b) different modes of communication for Deaf people; (c) sign language grammatical system; and (d) how to prepare and analyze sign language data. These 4 micro-modules are designed to facilitate Flipped Classroom Teaching. The videos from these micro-modules helped consolidate students' knowledge of these four areas, and enhanced their in-class learning.

Each micro-module consists of a short video and uploaded on Blackboard followed by a short online quiz to measure the students' understanding of the video content.
The micro-modules can be used by other Linguistic courses as supplementary information as well. They offer useful information and knowledge related to sign languages studies, and are useful for other Linguistic students to learn about the linguistic system of sign languages. These micro-modules are also useful for sign interpretation students who want to learn more about the differences between sign language and spoken language.

View **Poster**
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Online Venue
Room A

Areas of Interest
MMCD and MOOC I

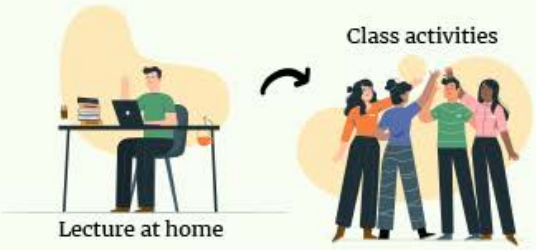
Remarks from Judges of the Poster Award:

- **It targets at serving the disadvantaged groups, which is a very meaningful cause much needed.**

Flipped Classroom in Higher Education: Benefits, Challenges, and Teaching Strategies

Promoting flipped classroom in Higher Education

TRADITIONAL CLASS



FLIPPED CLASS

The UGC-funded project "Effective Implementation of the Flipped Classroom Approach in Hong Kong Higher Education for Enhanced Learning Outcomes" is led by CUHK to promote flipped classroom among the partner institutions. The following reports preliminary findings of a study supported by the project with the following research questions in mind:

- *What are the perceived benefits and challenges of flipped classroom from teachers' perspective?*
- *How do teachers respond to the challenges?*

What we have done

The research team conducted in-depth interviews with 28 teachers from diverse academic disciplines in five different universities in Hong Kong. These teachers were recruited to share their experiences in adopting flipped classroom in their practice.

Findings

BENEFITS

Flipped classroom was found to be associated with many benefits to the teachers.

· More flexible use of class time

"I actually can finish all the topics this year."

· Enhanced interaction

"I think the interaction between instructor and my students are increased. So in each class we have a lot of discussions. We have a lot of personal experience sharing, so I know better of my students than before."

CHALLENGES

However, many teachers found the flipped classroom approach challenging.

· Increased workload

"In the flipped classroom teaching, you need a lot of resources to prepare, especially like filming the wind turbine […] there are a lot of activities and a lot of effort in the preparation stage."

· Difficulties in motivating students

"When you ask 'Do you have questions?' […] they will keep silent… they will just look down and looked at the watch "Come on, let me go"."

STRATEGIES

Teachers interviewed devised different strategies to overcome these challenges.

· Provide guidance to students

"At the onset of the course, you need to tell your students what is flipped classroom. […] we did explain to our students why we adopt the flipped classroom and why is it beneficial, because you can use more time, using class time, to finish your assignment, and then you can have a tutor, or the teacher to help you to complete the assignment"

· Better planning

"I think the flipped teaching, definitely, is an online together with offline classroom teaching that complements well with each other. […] So, the big question is how does the two things actually merge together and support each other? […] This would maximize the effect of the flipped classroom teaching."

P14: Flipped Classroom in Higher Education: Benefits, Challenges, and Teaching Strategies

Presented by
Mr. Alan TSE, Centre for Learning Enhancement And Research, The Chinese University of Hong Kong
Prof. Paul LAM, Centre for Learning Enhancement And Research, The Chinese University of Hong Kong
Dr. Hilary NG, Centre for Learning Enhancement And Research, The Chinese University of Hong Kong
Ms. Carmen LAU, Centre for Learning Enhancement And Research, The Chinese University of Hong Kong

Abstract
Flipped classroom is increasingly being adopted in higher education institutions worldwide, including Hong Kong. This new teaching approach require students to gain first-exposure to learning material before class, thereby saving valuable class time for higher level cognitive activities. What are the perceived benefits and challenges of flipped classroom from teachers' perspective? How do teachers respond to the challenges?

To address these questions, our research team conducted in-depth interviews with 28 teachers from diverse academic disciplines in five different universities in Hong Kong. These teachers were recruited to share their experiences in adopting flipped classroom in their practice. Flipped classroom was found to be associated with many benefits to the teachers, such as more flexible use of class time, higher teaching quality, and opportunities for professional development. However, many teachers found it challenging to motivate students to engage in the pre-class learning material. Producing pre-class learning material and managing classroom activities entailed extra workload. Adapting to the flipped classroom approach also presented challenge to some teachers and students.

Teachers interviewed devised different strategies to overcome these challenges. For example, some provided extra incentive to motivate students to prepare for pre-class learning materials. Possible institution measures to help teachers and students to adapt to the flipped classroom approach will be discussed.

View **Poster**
View **Video**

Online Venue
Room B

Areas of Interest
Flipped Classroom Approach

Remarks from Judges of the Poster Award:

- **It covers the views of a number of teachers in various universities.**
- **It investigates the challenges and benefits of implementing the flipped classroom approach from the perspective of teachers and have the potential to lead to pedagogical advice.**

E -management of Critically Sick General Surgical Patients

Prof. Kaori Futaba; Department of Surgery, Faculty of Medicine, The Chinese University of Hong Kong

Background

Management of critically sick, general surgical patients can be challenging. Doctors must assess the patient in a timely manner to decide on the most likely diagnosis to offer them prompt treatment to save lives.

Initial choice of treatment can be crucial in the management of critically ill patients.

There are a wide range of investigations available to help doctors reach the correct diagnosis, however there are pros and cons and risks with each test offered and it can be difficult to decide on which investigation is the best one for your patient at that time.

Method

Exposure to the variety of emergency surgical conditions during General Surgical attachment of medical student is unpredictable and may be limited depending on the case mix availability.

The project objective was to produce an interactive learning platform to allow students to manage a critically sick e-patient to enhance student's deeper learning and promote higher order learning.

Three important classical emergency surgical scenarios: acutely painful leg, acute abdominal pain and gastrointestinal bleed were chosen. The interactive micromodules have been developed and accessed by final year medical students via CU Blackboard, to allow students to access this 24/7.

Summary

Relevant clinical images and video are imbedded into the micro-modules to improve medical students' understanding of different special investigations available.

Formative assessment on both case diagnosis and management plan are used in each case to test student's decision making.

Informative feedback provided for each choices of decision are welcomed by the students.

Discussion

Decision making is an important skill to master.

E-management of critical sick general surgical patient allows students to learn important elements of managing critically sick surgical patients but also allows them to appreciate the consequence of their decision without harming real patients.

Imagining: such as Magnetic resonance cholangiopancreatography

Procedure videos: such as Endoscopic retrograde cholangiopancreatography

Short narrated operative videos

MMCDG funded project

Members of the Project Team

- Professor Tony WC Mak (Division of Colorectal Surgery)
- Professor Simon SM Ng (Division of Colorectal Surgery)
- Professor Enders KW Ng (Division of Upper GI and Metabolic Surgery)
- Professor Paul BS Lai (Division of Hepatobiliary and Pancreatic Surgery)
- Professor James YW Lau (Chairman & Yao Ling Sun Professor of Surgery, Division of Vascular Surgery)
- Dr. Kiby Au-Yeung (Higher Surgical Trainee)
- Dr Kristy PT Fung (Basic Surgical Trainee)
- Dr Ruby Lau (Higher Surgical Trainee)
- Dr Sunny Cheung (Associate Consultant, Division of Hepatobiliary & Pancreatic Surgery)
- Dr Patricia Yih (Associate Consultant, Division of Vascular surgery)

Supported Team

- ITSC, CUHK
- Office of Medical Education, Faculty of Medicine

P28: E-management of Critically Sick General Surgical Patients

Presented by
Prof. Kaori FUTABA, Department of Surgery, The Chinese University of Hong Kong
Dr. Kristy PT FUNG, Department of Surgery, The Chinese University of Hong Kong
Dr. Kitty AU YEUNG, Department of Surgery, The Chinese University of Hong Kong
Dr. Ruby LAU, Department of Surgery, The Chinese University of Hong Kong
Dr. Sunny CHEUNG, Department of Surgery, The Chinese University of Hong Kong
Dr. Patricia YIH, Department of Surgery, The Chinese University of Hong Kong
Prof. Tony WC MAK, Department of Surgery, The Chinese University of Hong Kong
Prof. Simon SM NG, Department of Surgery, The Chinese University of Hong Kong
Prof. Enders KW Ng, Department of Surgery, The Chinese University of Hong Kong
Prof. BS LAI, Department of Surgery, The Chinese University of Hong Kong
Prof. James YW LAU, Department of Surgery, The Chinese University of Hong Kong

Abstract
Management of critically sick, general surgical patients can be challenging. Doctors must assess the patient in a timely manner to decide on the most likely diagnosis to offer them prompt treatment to save lives. Initial choice of treatment can be crucial in the management of critically ill patients. There are a wide range of investigations available to help doctors reach the correct diagnosis, however there are pros and cons and risks with each test offered and it can be difficult to decide on which investigation is the best one for your patient at that time. There is no one correct way to manage a sick general surgical patient. However, consequence of making a wrong choice may cost patient's life. Decision making is an important skill to master. Exposure to the variety of emergency surgical conditions during their General Surgical attachment is unpredictable and may be limited depending on the case mix availability.

The project objective was to produce an interactive learning platform to allow students to manage a critically sick e-patient to enhance student's deeper learning and promote higher order learning. We have included relevant clinical images and video to improve their understanding of different special investigations available. It allows students to learn important elements of managing critically sick surgical patients but also allows them to appreciate the consequence of their decision without harming real patients. We chose three important classical emergency surgical scenarios: acutely painful leg, acute abdominal pain and gastrointestinal bleed.

View **Poster**
View **Video**

Online Venue
Room A

Areas of Interest
Pedagogical Advancement II

Remarks from Judges of the Poster Award:

- **It effectively makes use of real-life scenarios to train medical students' decision making.**
- **The interactive cases are built with high level of sophistication with different feedback associated with different choices the students make.**

Online assessment strategies: Insights from Recent Studies

Memebers/ Contacts:

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School of Biomedical Sciences, CUHK

Challenges and Opportunities: The COVID-19 Influence

In view of the outbreak of COVID-19, the University recommended teachers to facilitate and conduct online assessments and to avoid face-to-face examinations. Traditionally, tests and exams are key components in continuous assessment to assess and monitor students' learning and academic progress.

To assess our students based on the criteria recommended by the University, we have revised our assessment schemes for our course, SBMS1432 Human Anatomy and Physiology II, accordingly, and replaced all on-campus assessments with online assessments or e-assessments. It was a big challenge as changing the assessment format into an online mode involved a tremendous amount of work and effort putting together to ensure the academic integrity maintenance and success of the systemic computer technology approach when compared with the traditional written assessment.

Objectives

We investigated on the feasibility and effectiveness of the revised assessment methods and how to maintain the academic integrity for the online assessments in the course, SBMS1432, Human Anatomy and Physiology II with a class size of about 70 students.

Methodology

We set a total of two multiple-choice question online tests and one online exam in this course. We have analyzed and compared various formats for display and different combinations of invigilation methods in the online assessments as shown.

Formats of Multiple-Choice Question Setting	Invigilation Methods
1. Display all questions at a time	a. Blackboard with Zoom monitoring
2. Display questions one at a time (Trial only)	b. Lockdown Browser with Response Monitor
3. Display all questions at a time	c. Lockdown Browser with Response Monitor plus Zoom monitoring
4. Randomize the order of questions or answers	d. Lockdown Browser with Zoom monitoring

Discussions

After having tested and analyzed the feasibility and the effectiveness of each of these formats and different combinations of invigilation methods of the online assessments, we found that there were pros and cons in any of these methods. Therefore, there is indeed no "magic" solutions to ensure the academic integrity of students. On the one hand, we trust our students. On the other hand, we ought to provide fair assessments and ensure academic integrity. We could only do our best to minimize the chance of cheating while ensuring that these online assessments could serve as appropriate assessments for our students and preventive measures against the potential spreading of COVID-19.

Take Home Messages

To conclude, it is important to ensure a stable internet connection on both ends (examiners/invigilators and students), provide clear and detailed instructions and guidelines to both students and invigilators with test trials in advance, and a smooth systemic invigilation process. In the future, there is a need to promote academic integrity widely on campus. Both teachers and students should have mutual understanding about the standards and the consequences of the academic dishonesty and cheating.

Acknowledgements

Division of Education, School of Biomedical Sciences, Faculty of Medicine, CUHK
Mr. Ray Lee, Information Technology Service Center, CUHK
Prof. Simon Au and Ms. Shirley Tsui, Division of Education, School of Biomedical Sciences, Faculty of Medicine, CUHK

P30: Online Assessment Strategies: Insights from Recent Studies

Presented by
Dr. Molly P.M. WONG, School of Biomedical Sciences, The Chinese University of Hong Kong
Dr. Florence M.K. TANG, School of Biomedical Sciences, The Chinese University of Hong Kong

Abstract
Traditionally, tests/exams are key components to assess and monitor students' learning and academic progress. The standard pen-and-paper format is usually adopted to test students' understanding on the subject matter in proctored tests/exams. To ensure academic integrity and fairness, students are arranged in classrooms to complete the tests/exams in proctored environments to prevent cheating.

In view of the outbreak of COVID-19, the University recommended teachers to conduct online assessments. Based on these criteria, we revised our assessment schemes for our course, SBMS1432 Human Anatomy and Physiology II. It was a big challenge as changing the assessment format into an online mode involved a tremendous amount of effort to ensure the success of systemic computer technology approach when compared with traditional written assessment.

In our presentation, we will discuss and share our experiences about our assessment strategies, and how we managed to maintain academic integrity for the online assessments. There was a total of three multiple-choice question online tests/exams. We designed and conduced them in various formats, a) display all questions at a time, b) display questions one at a time, and c) randomize the order of questions/answers. Furthermore, we adopted three different combinations of invigilation methods, i) Blackboard with Zoom monitoring, ii) Lockdown Browser with Response Monitor plus Zoom monitoring, and iii) Lockdown Browser with Zoom monitoring.

To conclude, it is important to ensure a stable internet connection, provide clear and detailed instructions and guidelines to both students and invigilators with test trials in advance, and a smooth systemic invigilation process.

View **Poster**
View **Paper**
View **Video**

Online Venue
Room B

Areas of Interest
Online Assessment

Remarks from Judges of the Poster Award:

- **A great deal of effort has been paid to evaluate various online assessment methods with a focus on ensuring academic integrity.**
- **It serves as very good references.**

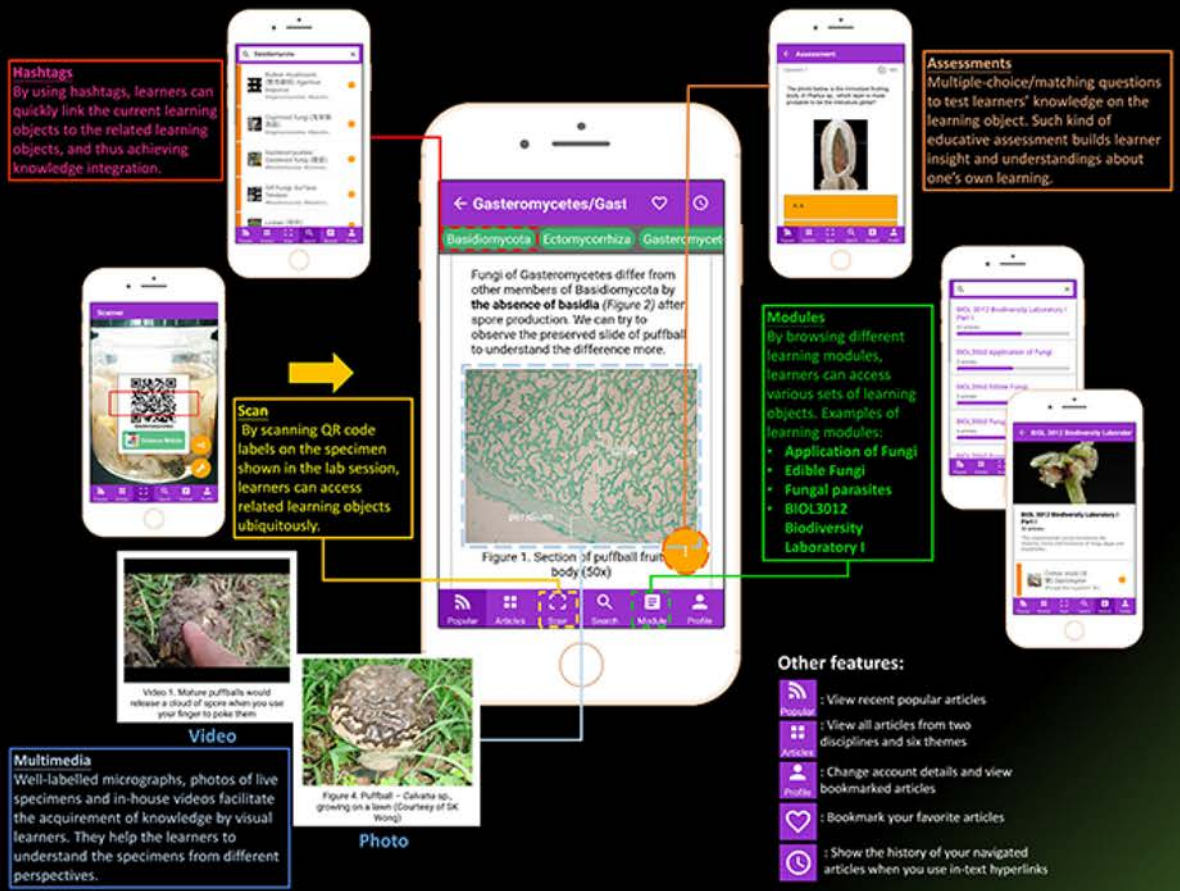
Learning Fungal and Plant Biology via "Science Mobile"

Cheung-Ming Chow, Siu-Kwan Wong & Ka-Man Carmen Cheng
School of Life Sciences

Introduction

Our project enhances the learning experience for students by

- promoting **ubiquitous learning** by digitalising lab specimens and wildlife examples with relevant information and explanation;
- fostering **knowledge integration** with ***hashtags*** and ***in-text links*** for swift connection to related topics;
- guiding students with **learning modules** so that they can go step by step in their learning pathway;
- encouraging **self-learning** with self-assessment and in-class sharing.



Other features:

- Popular : View recent popular articles
- Articles : View all articles from two disciplines and six themes
- Profile : Change account details and view bookmarked articles
- : Bookmark your favorite articles
- : Show the history of your navigated articles when you use in-text hyperlinks

Implementation

Lab Courses:
BIOL3012 and BIOL3022-Biodiversity Lab I and II

Course	Article no.	Average no. of articles read by students	Total no. of articles read by students
BIOL3012	32	25.6	820
BIOL3022	113	32.2	1368

Lecture Courses:
BIOL3560-Biology of Fungi and Non-vascular Plants
BIOL3570-Biology of Vascular Plants

Module Statistics
Students' performance in assessment can be viewed on the teacher panel of Science Mobile. Course instructors may use the statistics for evaluation and grading.

Conclusion and Future prospective

We have so far created over 226 learning objects and 15 modules/learning paths under the themes "Plant Biodiversity" and "Fungal Biodiversity" in "Science Mobile" apps, including 19 videos, 1080 photos, 43 illustrations, 397 questions and 800 hashtags/links in addition to the basic information and descriptions. In the coming few months, we aim to enrich the themes with additional videos and learning objects.

Items	Uploaded	Goals
Learning objects	226	240
Photos	1080	~ 1200
Illustrations	43	
Videos	19	
Questions	397	~400

The courseware is supported by UGC-funded Teaching and Learning Related Initiatives (2016-2019 triennium) (as a part of the project: "Establishment of Ubiquitous Learning in Teaching and Learning Science for Knowledge Integration (Chemistry and Life Science)").

P32: Learning Fungal and Plant Biology via “Science Mobile”

Presented by
Dr. Cheung-Ming CHOW, School of Life Sciences, The Chinese University of Hong Kong
Mr. Siu-Kwan WONG, School of Life Sciences, The Chinese University of Hong Kong
Ms. Ka-Man Carmen CHENG, School of Life Sciences, The Chinese University of Hong Kong

Abstract
To promote knowledge integration, self-learning and ubiquitous learning among Biology students, we have so far created over 226 learning objects and 15 modules/learning paths under the themes “Plant Biodiversity” and “Fungal Biodiversity” in “Science Mobile” apps, including 19 videos, 1080 photos, 43 illustrations, 397 questions and more than 800 hashtags/links in addition to the basic information and descriptions.

In the pilot test during the 1st term of 2019-20 academic year, “Science Mobile” has been implemented in one lab course (BIOL3012) and one lecture course (BIOL3560). In the lab course, to achieve ubiquitous learning, students were directed to the specimen-related learning objects in “Science Mobile” after scanning QR codes on the specimens. With the hashtags/links provided, this helps lab students to not only appreciate the significance of specimen features but also integrate their observations with knowledge from the relevant lectures. In the lecture course, to promote self-learning and knowledge sharing, each student was assigned to read a module in “Science Mobile” and then shared his/her knowledge in the class activity. In both courses, the student performance in the self-tests of “Science Mobile” is included in the course assessment’s scheme. During the 2nd term, “Science Mobile” has also been used in the distance learning. For the lab course (BIOL3022), PDF files with QR codes have been provided while students of a lecture course (BIOL3570) used relevant modules in “Science Mobile”for preparing their breakout room discussion.

View **Poster**
View **Video**

Session
Room B

Areas of Interest
Online Teaching I

Remarks from Judges of the Poster Award:

- **The project provides rich learning resources that have high visual impact.**
- **It arouses students' interest in participating in lab courses.**

Learning Medical Abbreviations on Instagram

LEE VWY[1-4], NG EEN[1], YIU CL[2], TSANG ITY[4], CHAN AWT[4]
1. Centre for Learning Enhancement And Research, 2. The Nethersole School of Nursing, 3. Office of Medical Education, 4. School of Pharmacy

FOLLOW US ON Instagram MARSCUHK

香港中文大學 The Chinese University of Hong Kong

Centre for Learning Enhancement And Research 學能提升研究中心

Background

Students spend most of their time on social networking everyday. We believe that by utilizing social network platform can help engaging students in learning.

Summary of Work

- To provide user friendly mobile learning materials for studying medical abbreviations in order to interpret information efficiently.
- Developed Medical Abbreviation References for Synchronous-Learning (MARS), an e-learning model - for learning medical abbreviations.
- Most of the learning materials were uploaded on Instagram – the most popular social network platform.

Objectives

- Engage learning through social network platforms
- Provide mobile-friendly and interesting learning materials to university students.
- Equip students for community outreach, clerkship training and future profession

Features

The model includes following features and we opened an Instagram account to host all customized memes of the abbreviations. The complete model and the features can be found at www.cuchampion.com/marscuhk

90 Terms — Medical Abbreviations

Memes, Emoji & Hashtags

Abbreviation Search

Study Cards

Questions Bank

What is a Meme?

Image or video which is typically humorous in nature which represents the thoughts and feelings of a specific audience. It is a way of expressing a culturally-relevant idea.

Our Memes

The graphics contained subtle connection to the terms' definition. We also provide definition of the terms in the post with hashtags which made the content discoverable and extended humorous outcomes of the posts.

Sample of our memes

Implementation & Findings

We invited 54 pharmacy and 60 other health sciences students to have hands on experience of the model and conduct self assessment before and after using the platform for impact evaluation. Their feedbacks and survey figures indicated that the model did help their learning and the project completed satisfactorily. The students agreed that the model was useful and helpful for them in following areas:

Pharmacy Students	Other Students	
+28% (P=0.0002)	+24.4% (P=0.0003)	Communicate with other healthcare professionals during clinical clerkship
+20% (P=0.0001)	+22.1% (P=0.0007)	Helpful to explain medical terms to patients
+40.2% (P<0.0001)	+37.7% (P<0.0001)	Easiness to study medical abbreviations

On a scale of 1 to 5, with 1 being strongly disagree and 5 being strongly agree, the students responded as below:

Pharmacy Students	Other Students	
3.8 (P<0.0001)	3.8 (P<0.0001)	Increased interest for learning medical abbreviations
3.8 (P<0.0001)	3.9 (P<0.0001)	The content for learning medical abbreviations was useful
3.7 (P<0.0001)	3.8 (P<0.0001)	Overall Satisfaction

Conclusion

The findings in this project were rewarding and gave us new insights on how to maximize the use of new media platform to develop new teaching approach for today's university students. Develop modules that share university students' interest is helpful to improve their perspective, attitude and motivation on complicated subjects. Nevertheless, we believe that it takes both teachers and students' effort to discover new study methods to improve overall learning experience and outcomes.

P59: Learning Medical Abbreviations on Instagram

Presented by
Prof. Vivian Wing Yan LEE, Centre for Learning Enhancement And Research, The Chinese University of Hong Kong
Ms. Catherine Lok YIU, The Nethersole School of Nursing, The Chinese University of Hong Kong
Ms. Artemis Wing Tung CHAN, School of Pharmacy, The Chinese University of Hong Kong
Mr. Enoch E Nok NG, Centre for Learning Enhancement And Research, The Chinese University of Hong Kong
Ms. Ivy Tsz Yan TSANG, School of Pharmacy, The Chinese University of Hong Kong

Abstract
Background:
Students spend most of their time on social networking everyday. We believe that by utilizing social network platform can help engaging students in learning.

Summary of Work:
We aimed at providing easy to use and mobile friendly learning materials for students to be familiarized with various medical abbreviations in order to interpret information efficiently. In this project we developed an e-learning model for learning medical abbreviations. This model included a self-learning webpage and an Instagram account (@marscuhk) that introduced 90 medical abbreviations.

Summary of Result :
We received feedbacks and pre/post project survey data from over 100 Pharmacy year 3 and other Faculty of Medicines students of different disciplines. Nearly 90% of interviewed students use Instagram as their major social media platform.

In addition, they agreed that the website and Instagram account and their contents were useful and helpful for them in following areas: communicate with other healthcare professionals during clinical clerkship (Pharmacy students:+28%, p=0.0002, other students :+24.4%, p= 0.0003); helpful to explain to patients (Pharmacy students: +20%, p=0.001388, other students : +22.1%, p= 0.0007); increased their knowledge (Pharmacy students : 18.4% , p=0.0014, other students : +12.7%, p= 0.0291)

Discussion & Conclusion:
Students' feedbacks and survey figures indicated that the model did help their learning and the project completed satisfactorily.

Take-home Message:
Providing innovative and interesting learning methods to students can improve their attitude and motivation on complicated subjects.

View **Poster**
View **Video**

Session
Room B

Areas of Interest
Apps and Tools

Remarks from Judges of the Poster Award:

- **The project enhances students' learning by engaging them in explaining medical abbreviations and sharing them on the social media platform.**
- **Learning through active learning.**

POSTER COMMENDATION - POSTERS FROM SISTER

Learning to Learn

Preparing Students for a Rapidly Changing World

Miss Kevinia Cheung, Assistant Educational Development Officer,
Educational Development Centre, The Hong Kong Polytechnic University

The Challenge

We are living in a rapidly changing world where we face plenty of unexpected happenings. The knowledge and skills that we have learned today may not be able to help us handle the future tasks, problems and crises. Therefore, we need to keep learning. However, not all students are motivated to learn. And, not all students know how to learn. What can we do to help increase their learning motivation and help them learn better and more effectively?

Our Strategic Priority

In our Strategic Plan 2019/20 – 2024/25, we put down 'learning to learn' (L2L) as our strategy to tackle this challenge. Our goal is to strengthen the L2L element in the programme and subject curriculum. Through the L2L development, we hope our students will become motivated and effective learners who are able to manage their learning and adopt appropriate and effective methods to acquire knowledge and skills that can eventually help them cope with the problems in the rapidly changing world.

Our Plans

We develop a L2L model (see Figure 1) for our context based on the outputs of a comprehensive study of 523 L2L components by Cristina Stringher in 2014. In our L2L model, we focus on six dimensions: Intentional, Dispositional, Metacognitive, Affective-motivational, Cognitive and Social, with two components under each dimension. We believe this model can guide our programmes to define strategies suitable for their disciplinary context to develop our students to become better and more effective learners.

Under this model, all undergraduate programmes are expected to address the twelve L2L components in the programme and subject curriculum and create opportunities at different levels for students to develop, practice and enhance their learning ability during the entire period of their study in the university. At the same time, students are encouraged to keep a learning portfolio to document their journey of pursuing something they aspire to.

By the end of the 2024/25 academic year, all undergraduate programmes should have devised strategies for the L2L development in the curriculum, with clear information of the teaching and learning activities at the programme and subject levels to develop students' L2L ability.

Figure 1 PolyU's L2L Model

Week	Activity/ Task	Purpose/ Intended Outcome	Learning resources
1-2	Briefing	Explain to students what L2L is and why it is important to them, and go through the activities and resources to support their L2L development	L2L online module
	L2L Self-assessment	For students to rate their performance of the twelve L2L components/ attributes – it helps students understand more about themselves as a learner and it helps us collect student data before the implementation of the L2L activities	Online L2L self-assessment form
	Picture My Aspirations & My Personal Development Plan Assignments	For students to learn to set their learning goals and make plans for achieving them	Templates and L2L online module
3 & 5	Debriefing	Go through the L2L Self-assessment results and relay to students what they can do to improve their learning ability and become the master of their learning Go through their Picture My Aspirations and My Personal Development Plan submissions and point out the areas that they made mistakes or misunderstood	L2L online module Templates and L2L online module
12-13	Progress Review Assignment	For students to review their progress and identify gaps	Template and L2L online module
14	My Experience Reflection Assignment	For students to reflect on their own learning experience with reference to their Personal Development Plan, and identify their strengths and weaknesses	Template and L2L online module
	L2L Self-assessment	For students to rate their performance of the twelve L2L components/ attributes again – it helps students check their performance over the semester and it helps us collect students data after the implementation of the L2L activities	Online L2L self-assessment form
	Wrap-up	Recap the L2L activities, emphasise the concepts behind, acknowledge students' achievements, and encourage students to continue the process	

Table 1 L2L Implementation Plan of the Pilot

The Pilot Study

In 2018, we launched an institutional project to pilot some activities and materials focusing on the intentional, dispositional and metacognitive dimensions with over 900 Freshman Seminar students of three Faculties: Faculty of Construction & Engineering, Faculty of Engineering and Faculty of Humanities.

We developed an implementation plan and designed some face-to-face and online activities (see Table 1) to engage students in the L2L development during the first semester of their university study.

The Pilot Study – key findings

When comparing the two sets of data of L2L self-assessment the students completed at the beginning and at the end of the semester, we find statistically significance in 8 out of the 12 L2L components, and they are: Meaning Making, Personal Beliefs about Learning, Self-Regulated Learning, Reflection on Learning, Emotion & Resilience, Higher-Order Thinking, Understanding Learning and Learning from and with Others.

Student feedback collected via our online survey shows a positive view on the usefulness of the L2L ability in students' study, life planning and future study and career. Most students find our activities and resources able to help them become a better and reflective learner.

What's Next?

The implementation of L2L development will spread from students' first year of study to other years. Funding will be allocated to support faculty members to review the curriculum and (re)design suitable teaching and learning activities or finetune the existing activities with support of the Educational Development Centre and other units to help students become effective lifelong learners.

In order to expand and increase faculty members' engagement in L2L development, we have recently set up a community of practice to get faculty members and students together to create more dialogues on teaching and learning, and engage them in action research to experiment ideas and strategies to promote and enhance the L2L development inside and outside the class. We are planning to build a virtual library of literature, ready-to-use resources, good practice cases related to L2L for documentation and sharing purposes. We are also going to organise social activities for members to exchange ideas with other participants and showcase the outcomes of their action research experience.

LEARNING TO LEARN ACADEMY
The Hong Kong Polytechnic University

LEARN²LEARN

U05: Learning to Learn: Preparing Students for a Rapidly Changing World

Presented by
Ms. Kevinia CHEUNG, Educational Development Centre, The Hong Kong Polytechnic University

Abstract
An important role of tertiary education is to prepare students for a rapidly changing world. On top of professional knowledge and skills and generic competences, PolyU finds it more important to develop and enhance students' ability to learn to learn. 'Learning to learn' (L2L) is more than just learning. It covers a range of skills in multiple domains supporting student development in understanding themselves as learners, managing their learning, devising strategies that are effective and appropriate for themselves, finding ways to improve their learning outcomes and experiences across different situations and ultimately becoming confident and effective life-long self-learners. A framework with a two-pronged approach (programme-embedded and student self-managed) to strengthen the L2L element in the programme and subject curriculum has been proposed. Eventually, all undergraduate programmes will incorporate L2L components into their curriculum to support students' L2L development across the entire period of their study.

To prepare for the implementation of the L2L framework in the 2021/22 academic year, a two-year project was launched in 2018 to pilot some contextualized activities and materials with First Year students in Freshman Seminars of three Faculties. The pilot experience provides useful information about the process and the support that programmes, faculty members and students need for L2L development.

View **Poster**
View **Video**

Session
Room C

Areas of Interest
Students' Capabilities II

Remarks from Judges of the Poster Award:

- **The project is scaled to have impact on many students across many disciplines.**
- **It is structured in planning and implementation.**

PEDAGOGICAL USE of BILINGUAL TEXT-MINING

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POON Chun Wing (pooncw@eduhk.hk)
CHEN Guanghe, Dillan (gchen@eduhk.hk)
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Centre for Learning, Teaching and Technology, The Education University of Hong Kong

The use of bilingual text-mining system is introduced to EdUHK courses for 3 types of learning analytics supports.

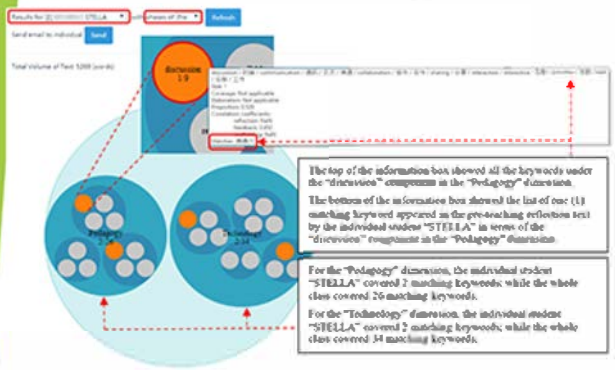
(1) The system can automatically identify and count the matching keywords mentioned in students' reflection texts, according to the frameworks of topic-specific keywords established by the teachers.

(2) The system can automatically generate hierarchical visualization of text-mining results, of which the zoom-able diagrams incorporate a number of statistical quantities for interpreting text-mining results from the individual-student, student-group, and whole-class perspectives.

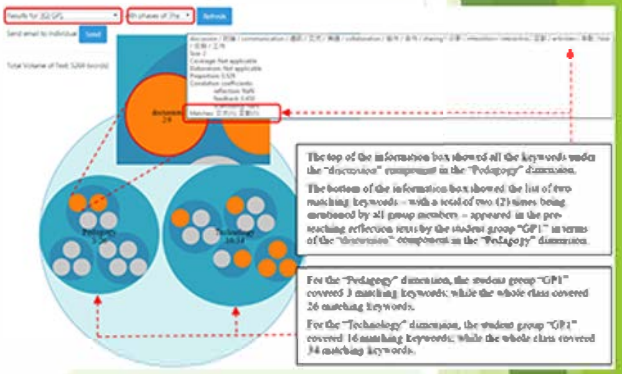
(3) The system can automatically analyze students' major focuses in their learning reflection, for checking students' strengths and inadequacies in understanding the topic-specific concepts.

These learning analytics supports are empirically examined to be effective for stimulating and guiding students to check learning inadequacies, identify areas of improvement, and re-think learning focuses in course learning.

"Individual / Class" comparison



"Group / Class" comparison



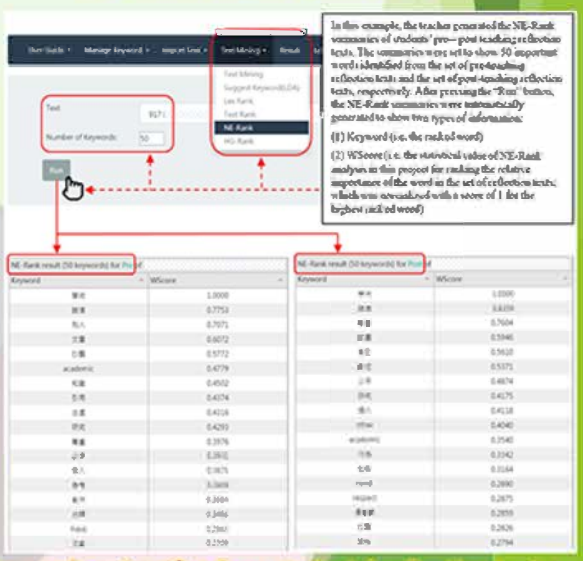
LexRank analysis

What is e-Learning?

Students' major focuses in the learning reflection

NE-Rank and HG-Rank analyses

What is academic integrity?



Keywords-extraction from students' reflection texts

香港教育大學
The Education University of Hong Kong

U10: Pedagogical Use of Bilingual Text-Mining

Presented by
Prof. Siu Cheung KONG, Centre for Learning, Teaching and Technology, The Education University of Hong Kong
Dr. Linda Wai Ying KWOK, Centre for Learning, Teaching and Technology, The Education University of Hong Kong
Dr. Chun Wing POON, Centre for Learning, Teaching and Technology, The Education University of Hong Kong
Mr. Dillan Guanghe CHEN, Centre for Learning, Teaching and Technology, The Education University of Hong Kong
Mr. Chenglong MA, Centre for Learning, Teaching and Technology, The Education University of Hong Kong

Abstract
The use of bilingual text-mining system is introduced to EdUHK courses for three types of learning analytics supports. (1) The system can automatically identify and count the matching keywords mentioned in students' reflection texts, according to the frameworks of topic-specific keywords established by the teachers. (2) The system can automatically generate hierarchical visualization of text-mining results, of which the zoom-able diagrams incorporate a number of statistical quantities for interpreting text-mining results from the individual-student, student-group, and whole-class perspectives. (3) The system can automatically analyze students' major focuses in their learning reflection, for checking students' strengths and inadequacies in understanding the topic-specific concepts. These three learning analytics supports are empirically examined to be effective for stimulating and guiding students to check learning inadequacies, identify areas of improvement, and re-think learning focuses in course learning.

View **Poster**
View **Video**

Session
Room B

Areas of Interest
Platform and/or Services I

Remarks from Judges of the Poster Award:

- **It is innovative to use the technology as a pedagogical tool.**
- **It has high potential in teaching and learning as the empirical analysis of students' work and learning experiences can lead to pedagogical implications.**

ABSTRACTS

TALKS

ASSESSMENT

Talk: Collaborative Inquiry-based Learning at the Heart of Undergraduate Teaching

Presented by
Prof. Michael LOWER, Faculty of Law, The Chinese University of Hong Kong
Ms. Vivian CHEN, Faculty of Law, The Chinese University of Hong Kong

Abstract
Traditional teaching and learning methods (lectures, tutorials and assessment by written examinations) are commonly used. Students work on tasks which may appear to them to have little intrinsic interest. The relationship of student learning to the knowledge production work of the university is unclear. Students work as individuals.

This paper will present a new course, offered for the first-time in 2018–19, which departs from the model just outlined in significant respects:
• 'Lectures' are only held for the first three weeks (to set up groups and explain the distinctive features of the course);
• Students work for four weeks in small, collaborative groups to produce a group blog post and prepare a presentation (each on a research topic chosen by the students within the broad field of property law);
• The groups are led and organised by the students themselves;
• A facilitator (a research post-graduate student) is assigned to each group;
• The students also work on an individual research project chosen by them (which can draw on the group project if they wish);
• After the first three weeks, the teacher's role is to be available to support the group and individual projects;
• The students are encouraged to publish their group and individual work.

This is an action research project and presents the teacher's insider account of the lived experience of the course. This account will be supported by interviews with the research postgraduates who worked as facilitators and the responses to a survey distributed to the students.

Online Venue
Room A

Areas of Interest
Assessment

Talk: Combining Student Performance in Criterion-referenced Assessments

Presented by
Dr. Kam Moon PANG, Office of University General Education, The Chinese University of Hong Kong
Dr. Wing Hung WONG , Office of University General Education, The Chinese University of Hong Kong

Abstract
Criterion referencing, which has been fully launched in the University, evaluates student performance in an assessed work against a predetermined set of goals and standards. Scoring student performance seems unnecessary. Yet, when multiple assessments are involved in a course, the grades of individual assessments are commonly converted into numeric scores whose weighted sum are then converted back to a course grade. A grade-score conversion is thus called for. This presentation addresses two technical issues when combining student performance in all assessments into a course grade. Firstly, the choice of grade-score conversion table is non-trivial especially in a course with multiple sections. Secondly, from the mathematical point of view, some choices of predetermined cut-off scores are preferable so as to reduce the chance of rampant grade inflation or deflation.

Online Venue
Room A

Areas of Interest
Assessment

Talk: Developing Clinical Competency: A Progression Model of Work Integrated Learning (WIL) in a Speech Language Pathology Programme

Presented by
Mr. Thomas LAW, Division of Speech Therapy, Department of Otorhinolaryngology, Head and Neck Surgery, The Chinese Univer

Abstract
Work integrated learning (WIL) is an integral part of a clinical program. A well-designed WIL curriculum ensures students develop clinical competency that meets the standards of the profession before entering the workforce. Traditionally, WIL in Speech-Language Pathology programs is heavily focused on or even restricted to direct patient interaction. Further, most of these clinical curricula focus on developing clinical skills across range of clinical areas but lack considerations on other aspects of clinical competency development.
The Master of Science in Speech-Language Pathology at CUHK aims to graduate students who will become competent speech therapists that meet both local and international professional standards. The programme takes a four-pronged progression model to develop entry-level clinical competency. These include (i) range of clinical practice area defined by professional bodies in Speech Language Pathology; (ii) clinical population involving both paediatric and adult; (iii) clinical skills from novice practitioner to entry-level practitioner; and (iv) independency in performing clinical tasks. Clinical competency evaluations in both summative and formative nature are carefully designed and structured into the clinical curriculum to ensure all milestones are reached prior to graduation.

In addition to traditional clinical interaction with patients, the clinical curriculum also involves community capacity building projects as well as health promotion activities. These experiences aim to provide students with a comprehensive WIL experience, so they gain experience at applying their knowledge and skills at both the patient and community level.
This four-pronged work integrated learning clinical curriculum aims to ensure students develop holistic clinical competency while taking into account the progressive-nature of student learning.

Online Venue
Room A

Areas of Interest
Assessment

Talk: Integrating Flipped Electronic Delivery and Active Learning

Presented by
Prof. David DONALD, Faculty of Law, The Chinese University of Hong Kong

Abstract
This presentation will summarize the results of teaching about 180 graduate law students Company Law by integrating two electronic components and one active learning component. The presentation will review the use of Open edX, YouTube and Camtasia to deliver online lectures, together with the use of automated quizzes on Open edX to assess student understanding of lectures. Next, it will discuss the use of an integrated storyline of tutorial questions – that is, with characters and a story that continues from week to week - during a 12-week period to engage the students in the legal challenges of establishing, operating and growing a company limited by shares.

Online Venue
Room A

Areas of Interest
Assessment

Talk: Objective Structured Clinical Examinations (OSCE) - An Assessment to Ensure Students' Readiness for Clinical Practicums

Presented by
Ms. Peggy KAN, Department of Otorhinolaryngology, Head and Neck Surgery , The Chinese University of Hong Kong
Mr. Thomas LAW, Department of Otorhinolaryngology, Head and Neck Surgery, The Chinese University of Hong Kong

Abstract
Speech and Language Pathologist (SLP) is a competency-based practice profession. The SLP education curriculum emphasizes both theoretical and clinical training. Clinical practicums are one of the important training processes for building students' clinical competencies. Through this process, students develop clinical skills in multifaceted aspects, including implementing clinical procedures, clinical reasoning, communication and professionalism. Traditionally, students' competencies are assessed in an integrated manner. Very few assessments were used to assess their readiness for clinical practicums.

The Master of Science in Speech-Language Pathology programme aims to ensure students are capable of implementing basic clinical procedures before further learning more complicated clinical skills such as clinical reasoning. Objective Structured Clinical Examinations (OSCE) was found to be an effective assessment tool to evaluate the students' clinical skills and their competencies in various clinical skills across a number of health professional programmes. Hence, the MSc-SLP program adopted OSCE in assessing students' readiness for clinical practicum. Prior to each clinical practicum, an OSCE was held. Students' clinical readiness were assessed in using both pen-and-paper and procedural-type stations. Each OSEC consisted of approximately 10 stations targeting clinical skills that student will encounter in their upcoming clinical practicum. Each station was carefully design to ensure only pre-clinical skills are targeted. Student evaluations were collected after each OSCE. Students generally agreed OSCE was helpful in preparing them for their clinical practicums.

Online Venue
Room A

Areas of Interest
Assessment

CURRICULUM ENHANCEMENT

香港中文大學
The Chinese University of Hong Kong

香港中文大學醫學院
Faculty of Medicine
The Chinese University of Hong Kong

An Integrated and Multimodal Approach to Teaching Anatomy & Physiology to Speech & Language Pathology Students

Valerie PEREIRA, PhD[1,2] , Jason S.L. KAN, MSc[1,2] **& Michael C.F. TONG,** PhD[1,2]

[1]Department of Otorhinolaryngology, Head & Neck Surgery, CUHK

[2]The Institute of Human Communicative Research, CUHK

Introduction:

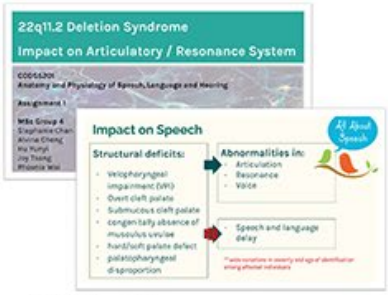
Speech and Language Pathology (SLP) students perceive the learning of anatomy and neuroanatomy as one of the more challenging subjects in the SLP curriculum. Studies that have looked at SLP student learning experiences[1] and effectiveness of pedagogies[2-3] in enhancing knowledge acquisition and retention[5] have found evidence to support an integrated approach and multi-modal teaching paradigm.

The Anatomy & Physiology in Speech, Language and Hearing course is a core course offered on the new 2-year Master of Science in Speech-Language Pathology Programme at CUHK. The course can also be taken during the 1-year Professional Diploma in Human Communication Disorders & Sciences.

Course Assessment Methods

Laboratory Exam

Online Quizzes



Expert Groups

Pedagogical Enhancing Elements

Computer-Aided Instruction & Learning (CAI & CAL)

CUHK Library Key Multimedia Databases

Laboratory Sessions (Multi-Faculty, Anatomage Table, 3D Models)

Choh-Ming Li Basic Medical Sciences Building, Dissecting Lab

Artistic Approaches

Drawing the Facial Muscles

Medical Imaging

Speech Nasendoscopy

Student Feedback

"I really like the idea of having a number of lecturers who are each an expert in their fields to teach this course. I particularly appreciate that Mr. Jason Kan and Dr Pereira use different approaches to help us remember the anatomical terms"

"Really enjoyed the whole programme, esp. the lab sessions, very rewarding. The lab sessions give a clearer idea of what we have been learnt in classes, to check our understanding. Neuro is difficult." Hopefully to be less demanding"

"Really enjoyed the lab sessions. Thank you."

CTE RATING

Overall I am satisfied with this course (Course mean=5.222 out of 6.000)

References

1 Martin K, Bessell NJ, Scholten I. The perceived importance of anatomy and neuroanatomy in the practice of Speech-Language Pathology. *Anat Sci Educ.* 2014; 7: 28-37.

2. Estal M, Bunt S. Best teaching practices in anatomy education: A critical review. *Annals of Anatomy.* 2016; 208: 151-157.

3. Losco CD, Grant WD, Armson A, Meyer AJ, Walker BF. Effective methods of teaching and learning in anatomy as a basic science: A BEME systematic review: BEME guide no. 44. *Medical Teacher.* 2017; 39(3): 234-243. doi: 10.1080/0142159X.2016.1271944

Talk: An Integrated and Multimodal Approach to Teaching Anatomy and Physiology to Speech and Language Therapy Students

Presented by
Dr. Valerie J PEREIRA, Department of Otorhinolaryngology, Head and Neck Surgery, The Chinese University of Hong Kong
Mr. Jason KAN, Department of Otorhinolaryngology, Head and Neck Surgery, The Chinese University of Hong Kong

Abstract
Speech and language therapy (SLT) students perceive the learning of anatomy and neuroanatomy as one of the more challenging subjects within the SLT curriculum. The subject remains an obligatory one as there is an evolving role of the profession in clinical service areas with a strong medical focus e.g. dysphagia, neuro-rehabilitative intervention, acknowledged by the various accrediting professional bodies globally. Studies have looked at student learning experiences (Martin et al., 2016) and effectiveness of types of pedagogies (Skinder-Meredith, 2010, Javaid et al., 2018; Estai and Bunt, 2018) in enhancing knowledge acquisition and retention (Losco et al., 2017) as well as instilling a greater appreciation for its clinical relevance. The evidence points to an integrated approach and multi-modal teaching paradigms.

The anatomy and physiology course run within the newly introduced MSc in SLT at CUHK, adheres to this pedagogical framework. The course lectures are given by multiple faculty members (SLTs, ENT surgeons) with supported examples of pathological functions and clinical examples, supplemented with medical laboratory sessions where students have access to 3D anatomy models and the Anatomage table (interactive and life-size 3D anatomy visualization system). Cadavers and prosections are expensive and are more relevant to medical students and trainee surgeons. Other pedagogical elements include Computer-Aided Instruction (CAI) or Learning (CAL) and web-based computer animations, which offer better visualisation of structures. Another relevant learning enhancement is Living Anatomy, where students engage in Peer Physical Examination (PPE) e.g. oro-motor examination. Student feedback has been positive towards this integrated and multi-modal teaching paradigm.

View **Poster**
View **Video**

Online Venue
Room B

Areas of Interest
Curriculum Enhancement

Talk: Blended Learning in MBA

Presented by
Dr. Andrew Chi Lok YUEN, MBA Programmes, Faculty of Business Administration , The Chinese University of Hong Kong
Ms. Canethy Man Ho YIP, MBA Programmes, Faculty of Business Administration , The Chinese University of Hong Kong

Abstract
The Master of Business Administration (MBA) Programmes started to pilot a blended learning mode (a.k.a. Flex MBA) and it has soft-launched in 2015/16. The blended mode supports University's eLearning initiatives on promoting flipped classroom pedagogy and diversify forms of communication and content delivery to enrich teaching and learning. It also responds to the needs of working professionals in Hong Kong and in the region who are already familiar with mobile technology and opt for a more flexible part-time MBA learning experience. With the blended learning, the MBA Programmes hope to bring a more flexible and technologically enhanced learning experience for students.

A comprehensive review has been conducted to evaluate the effectiveness of the Flex Program on Teaching and Learning. The evaluation was based on students' performance and feedbacks as well as teachers' review. In the presentation, we will focus on the curriculum design of Flex MBA programme and the design for courses with different natures. The challenges and difficulties we have faced in the development process will also be shared in this session. Recommendation will be suggested to tackle them. In addition, we will provide the evaluation of various educational technology tools that we have used in the Flex MBA.

Online Venue
Room B

Areas of Interest
Curriculum Enhancement

FLIPPED CLASSROOM APPROACH

香港中文大學
The Chinese University of Hong Kong

香港中文大學醫學院
Faculty of Medicine
The Chinese University of Hong Kong

Application of the Flipped Classroom and Case-based Learning in a Pre-clinical Speech, Language, and Hearing Sciences Course

Iris H.-Y. Ng, Michael C.F. Tong, Kathy Y.S. Lee
Department of Otorhinolaryngology, Head & Neck Surgery
The Institute of Human Communicative Research

Background:

- Professional Diploma in Communication Disorders and Sciences is first offered in 2019
- Pre-clinical foundational programme for the MSc SLP programme
- Provide students with the opportunity to apply and integrate theory into practice through the observation of real clinical contexts

Project Aim:

Outcome assessment for flipped classroom and case-based learning

Implementation:

- Pre-class online video for basic theories
- Individual Readiness Assurance Test (iRAT) at the beginning of classes through online learning platform
- In-class group discussion for case-based learning, either face-to-face or through online learning platform
- Outcome assessment through online learning platform

Results:

- Formative assessment – Individual readiness assurance test, distribution of students' ability roughly matches that of item difficulty, implying that students gained knowledge from pre-class work as expected

- Summative assessment – from the 2 quizzes, 1 administered online and 1 face-to-face, distribution of students' ability is higher than that of item difficulty, implying that students' learning through both pre-class work and in-class case-based learning exceeded our expectation

Implications:

Flipped classroom approach and case-based learning did serve the purposes of pre-clinical foundational learning, to apply theory into practice through the observation of clinical contexts

Outcomes have not been jeopardized by the mixed-mode / online teaching and learning

Talk: Application of the Flipped Classroom and Case-based Learning in a Pre-clinical Speech, Language, and Hearing Sciences Course

Presented by
Dr Iris Hoi-yee NG, Department of Otorhinolaryngology, Head and Neck Surgery & Institute of Human Communicative Research
Prof. Kathy Yuet-sheung LEE, Department of Otorhinolaryngology, Head and Neck Surgery, Institute of Human Communicative
Prof. Michael Chi-fai TONG, Department of Otorhinolaryngology, Head and Neck Surgery & Institute of Human Communicative

Abstract
It has been suggested that the flipped classroom is a useful model for pre-clinical health professional education. The flipped classroom approach enables students to spend their time in classroom for integration and application of knowledge, as led by the instructor. Knowledge from foundational materials can be learnt outside of class via assigned materials.

The Professional Diploma in Communication Disorders and Sciences is first offered in 2019, as a pre-clinical foundational programme for the Master of Science in Speech-Language Pathology programme. Case-based learning has been implemented in one of the new courses in the diploma programme offered in the first semester (September) 2019, the Psychology for Speech, Language, and Hearing Sciences course.

Students are expected to learn through assigned online videos before class, and answer readiness assurance questions at the beginning of their class. Students then work in small groups either face-to-face or through online learning platform to apply the knowledge in specific scenario, discuss cases, and achieve consensus to answer open-ended questions reflecting their critical thinking and active learning. Considering the variation in knowledge on psychology across the students from different backgrounds, this is believed to be an effective model of learning and teaching.

Both formative and summative assessment results, mostly assessed through online platform, indicated satisfactory outcomes from this output-based instruction. Rasch analysis based on Item Response Theory also suggested satisfactory outcomes from the learning and teaching.

View **Poster**
View **Video**

Online Venue
Room A

Areas of Interest
Flipped Classroom Approach

Talk: Flipped Classroom Pedagogy for Molecular Biology Laboratory Course

Presented by
Prof. P.C. SHAW, School of Life Sciences, The Chinese University of Hong Kong
Prof. Siu Kai KONG, School of Life Sciences, The Chinese University of Hong Kong
Mr. Eric Y.H. LIANG, School of Life Sciences, The Chinese University of Hong Kong
Ms. Ada L.P. KONG, School of Life Sciences, The Chinese University of Hong Kong
Ms. Queenie P.Y. LAU, School of Life Sciences, The Chinese University of Hong Kong

Abstract
In view of the rise of viral implementation of flipped classroom pedagogy in tertiary education system, we have adopted it in our Molecular Biology and Recombinant DNA Laboratory course. Our flipped classroom exercise provides students teaching resources including videos, lesson plans, and a set of self-learning materials for pre-class study, followed by in-class activities. Students were asked to finish the pre-class activities by watching the pre-lab talk videos to familiarize with the procedures for experiments, and doing pre-class exercises before attending the laboratory classes. In the laboratory session, students were asked to submit their homework and to complete pre-lab quizzes before the practical work, where lab demonstrators were able to engage student groups effectively to facilitate experimental inquiry, problem solving and discussion. We have adopted flipped classroom approach for two consecutively academic years in 2017-18 and 2018-19. After the first run in year 2017-18, some refinements such as fine-tuning the format of pre-class worksheet, revising questions in the pre-class exercises and reducing the time of debriefing session were carried out. The surveys carried out as part of this study showed that students welcomed these changes. Over 60% of students agreed that they collaborated more with their peers, discussed more with instructors and found their learning more flexible. Comments from students and observations from instructors in the 2018-19 cohort were also collected for further improvement.

Online Venue
Room A

Areas of Interest
Flipped Classroom Approach

Talk: Flipped Classroom Teaching in Clinical Communication: Matching the Pre-class and In-class Teaching Using Video Recording

Presented by
Dr. Wai Tat WONG, Department of Anaesthesia and Intensive Care, Faculty of Medicine, The Chinese University of Hong Kong
Dr. Victor SIM, Clinical Skills Learning Centre, Faculty of Medicine, The Chinese University of Hong Kong
Dr. Joyce LEE, Clinical Skills Learning Centre, Faculty of Medicine, The Chinese University of Hong Kong
Dr. Lowell LING, Department of Anaesthesia and Intensive Care, Faculty of Medicine, The Chinese University of Hong Kong

Abstract
An effective communication is closely related to verbal and non-verbal skills. A slightly different use of words or postures can have a significant effect on the expression of empathy. While video recording of case scenarios with skills labels have been used as pre-class preparation, we have tried to use real time video recording during the in-class face to face role-playing tutorial.

Viewing the role playing by students themselves can pick up effective and non-effective communications skills. Providing instant feedback by playing back the recording of the role-playing can arouse their awareness of the effect of their verbal and non-verbal expressions. Those expressions can be repetitive but may not be obviously apparent to the students. Real-time feedback using the video recording can emphasize the negative effect of some common mistakes including lack of eye contact and use of medical jargons. On the positive side, some well-expressed empathetic response can cause an obvious relief of stress on the surrogate acting as the family members of the sick patients.

Video recordings of the in-class role playing can be further processed by adding the skills label to facilitate students' revision with case scenarios which are different from the one they practiced. Students may be reluctant to be video recorded in the beginning of the lessons, but they mostly appreciate the effect once they have viewed their own recording.

Online Venue
Room A

Areas of Interest
Flipped Classroom Approach

香港中文大學
The Chinese University of Hong Kong

香港中文大學醫學院
Faculty of Medicine
The Chinese University of Hong Kong

Micro-Modules and Team-Based Learning to support a flipped-classroom pedagogy:

Experience from the Master of Science Program in Speech-Language-Pathology

Kathy Y.S. LEE, Jason S.L. KAN & Michael C.F. TONG
Department of Otorhinolaryngology, Head & Neck Surgery
The Institute of Human Communicative Research

Background:

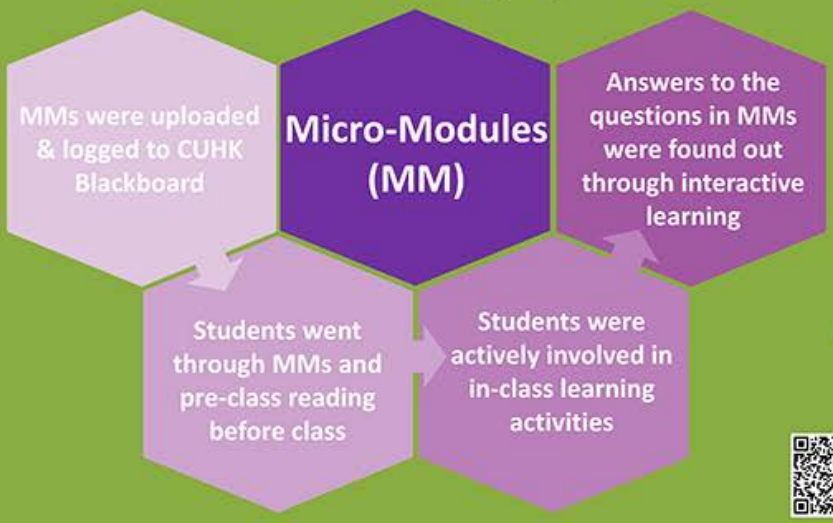
- MSc SLP is the first Speech Therapy programme in Hong Kong under Faculty of Medicine
- Advocate eLearning with the emphasis on clinical bridging
- Graduates are eligible to be Members of Register of Speech Therapists under the Department of Health's Accredited Registers Scheme for Healthcare Professions.

Project Aims:

1. prepare students to acquire the basic knowledge of related subjects
2. experience relevant clinical activities
3. provide direction of self-learning

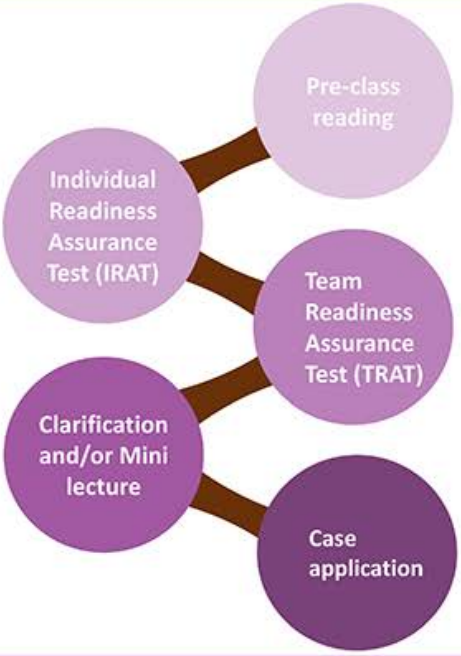
Ten tailor-made micro-modules, ranging from 2 to 6 minutes, were developed in the form of animation with narration covering subject areas of :

- a) Language Disorder,
- b) Speech Sound Disorder,
- c) Test Development,
- d) Fluency Disorder and
- e) Augmentative and Alternative Communication



Team-Based Learning (TBL)

An evidence based collaborative learning teaching strategy designed around units of instruction, known as "modules," that are taught in a three-step cycle: preparation, in-class readiness assurance testing, and application-focused exercise. A class typically includes one module.



Result:

CTE score relating to items of eLearning = 5.16 out of 6

" Useful as pre-engagement before class teaching ! "

" Helpful in understanding respective course content ! "

CUHK Micro-Module Courseware Development Grant 2017-18, Scheme 1: Basic Scheme, "Micro-Modules for Human Communication and Speech-language-hearing Sciences"

Talk: Micro-Modules and Team-Based Learning to Support a Flipped-classroom Pedagogy: Experience from the Master of Science Program in Speech-Language-Pathology

Presented by
Prof. Kathy Yuet-sheung LEE, Department of Otorhinolaryngology, Head and Neck Surgery, Institute of Human Communicative
Prof. Michael Chi-fai TONG, Department of Otorhinolaryngology, Head and Neck Surgery & Institute of Human Communicative
Prof. Jason Ying Kuen CHAN, Department of Otorhinolaryngology, Head and Neck Surgery & Institute of Human Communicative

Abstract
Flipped classroom learning encourages students to take responsibility for their own learning and to be actively engaged in exploring materials. This project aims to make use of micro-modules and team-based learning to (1) prepare students to acquire the basic knowledge of related subjects; (2) to experience relevant clinical activities/materials and (3) to provide direction of self-learning.

Ten tailor-made micro-modules, ranging from 2 to 6 minutes, were developed in the form of animation with narration covering subject areas of a) language disorder, b) speech sound disorders, c) test development, d) fluency disorder and e) augmentative and alternative communication.

Produced micro-modules were uploaded and logged to the LMS of CUHK (Blackboard) under the courses. Students were asked to go through the micro-modules before class. During class time, students were actively involved in in-class learning activities on team basis. Answers to the questions raised in the micro-modules were eventually found out through the interactive learning processes.

The Course and Teaching Evaluation (CTE) score in the first term of 2018-19 reached an encouraging average rating of 5.16 out of 6 in relation to eLearning. Students commented that they found the eLearning useful as pre-engagement before class teaching and also helpful in understanding respective course content.

View **Poster**
View **Video**

Online Venue
Room A

Areas of Interest
Flipped Classroom Approach

Talk: Why Active Learning Works: Understanding the GTA Training Program (PDEV 6800) through Merrill's First Principles of Instruction

Presented by
Ms. Nicole LAI, Center for Education Innovation, The Hong Kong University of Science and Technology
Mr. Donn GONDA, Center for Education Innovation, The Hong Kong University of Science and Technology
Dr. Beatrice CHU, Center for Education Innovation, The Hong Kong University of Science and Technology

Abstract
In the higher education teacher-training landscape, Universities usually offer professional development training to the faculty members regularly throughout the year. However, the training program offered for postgraduate teaching assistants or tutors is typically a few days of workshops that will cover the essential topics in handling their teaching duties. To make it worse, most of these postgraduate students came from a non-educational background.

Recognizing the importance research postgraduate teaching assistants, or GTA in HKUST context, in improving the quality of the post-lecture learning, HKUST adopts a flipped and more comprehensive teaching approach to address the gap in the current program, open up a new perspective in the delivery of content and materials for GTA, and enhance intercultural teaching competence by unveiling the opportunity, complexity, and challenges when catering to the diverse needs of their UG students.

In this case study, we will look into the evaluation of the Graduate Teaching Assistant Training Program using the "First Principles of Instruction" by David Merrill. This study aims to identify (1) what are the challenges and gaps in the current mode of delivery, (2) what are the active learning strategies needed to engage the students, and (3) what are the considerations made by the instructor in selecting appropriate technologies. Finally, we look through the various changes in the program structure to align with the current situation in Hong Kong, and how the teaching team integrated and solved these issues using various technologies needed to augment the gaps identified by the first five principles.

Online Venue
Room A

Areas of Interest
Flipped Classroom Approach

INFO SESSION

Talk: New ELITE Information Session

Presented by
Prof. Irwin KING, Director, Centre for eLearning Innovation and Technology (ELITE), The Chinese University of Hong Kong
Prof. Paul LAM, Associate Director, Centre for eLearning Innovation and Technology (ELITE)
Ms. Judy LO, Associate Director, Centre for eLearning Innovation and Technology (ELITE)

Abstract
Centre for eLearning Innovation and Technology (ELITE) aims to provide support for eLearning projects, Micro-Module Courseware Development (MMCD), and other University's initiatives such as Massive Open Online Courses (MOOCs). In this Information Session, we will introduce various eLearning services provided by the newly-restructured ELITE, including the production of courseware packages and resources, hosting of the resources on various platforms, and development of more sophisticated applications.

Online Venue
Room B

Areas of Interest
Info Session

LANGUAGE LEARNING

Talk: Alternative Language Enhancement Approaches at CUHK: Implementation, Achievements and the Way Forward of the English Across the Curriculum (EAC) Project and Peer Tutoring Scheme

Presented by
Dr. Jose LAI, English Language Teaching Unit, The Chinese University of Hong Kong

Abstract
The English Across the Curriculum (EAC) project and Interactive Lounge, funded by the Teaching Development and Language Enhancement Grant (TDLEG) for the 2016–2019 triennium, were language enhancement initiatives launched by the English Language Teaching Unit at The Chinese University of Hong Kong.

The EAC project is an institutional movement aiming to enhance students' disciplinary literacy by collaborating with content teachers through Community of Practice (CoP) projects. To date, more than 20 CoPs have been established within seven faculties. With its successful practices, the project team received further funding for the current triennium (2019–2022) not only to continue with the implementation of CoP projects, but also to expand its scope of service by incorporating eLearning components, e.g., in forms of online learning tools and micro-modules, as well as cultivating a non-academic writing culture by organizing workshops, competitions and publications.

The Interactive Lounge, a spin-off project from EAC, aimed to enrich students' informal English learning experiences by conducting theme-based interactive workshops and providing peer tutoring services in both online and offline modes. In the three years of implementation, the project team had conducted close to 80 workshops and provided over 1,500 peer tutoring sessions. In the current triennium, Interactive Lounge has also obtained funding to continue its service as two separate TDLEG projects: Project Chrysalis and Peer Tutoring Scheme.

This presentation will cover the implementation models, intervention processes and achievements of both projects in the previous triennium. Major changes to project design in the current triennium will also be highlighted.

Online Venue
Room A

Areas of Interest
Language Learning

Talk: Designing a Business Meeting Platform with ADDIE

Presented by
Mr. Thian Huat GOH, English Language Teaching Unit, The Chinese University of Hong Kong

Abstract
With the current trend of using technology in language learning, flipped lessons are highly encouraged within higher institutions in Hong Kong to promote independent learning. Combining with limited teaching time, the researchers have built the Business Meeting Platform (BMP) based on ADDIE (Analysis, Design, Development, Implementation and Evaluation) for Business Communication lecturers so that they can spend more time teaching and guiding students the language of business meetings in English instead of focusing on the format and skills in conducting a successful business meeting. In this platform, the researchers use Design Instructional model as the research design. The researchers have gone through some steps in creating the platform: Expert Validation, Design, Development, Try Out, Revision, and Final Product. As a result, BMP has been successfully applied to Year 3 business students of The Chinese University of Hong Kong, and this is reflected in the quantitative research conducted by one of the researchers. BMP has three micro-modules: Introduction to Business Meetings, Common Business Meeting Expressions, and Sample Video with Evaluations from Business Experts.

Online Venue
Room A

Areas of Interest
Language Learning

The Chinese University of Hong Kong
Teaching and Learning Innovation Expo 2019

Project Title: eLearning Courseware for Elementary Japanese Language Learning

Funded by Courseware Development Grant 2018-19

(Teaching Development and Language Enhancement Grant in the 2016-19)

Project Code: 4170584

Principal Investigator: Dr. HO Chi Ming

(Associate Professor, Department of Japanese Studies)

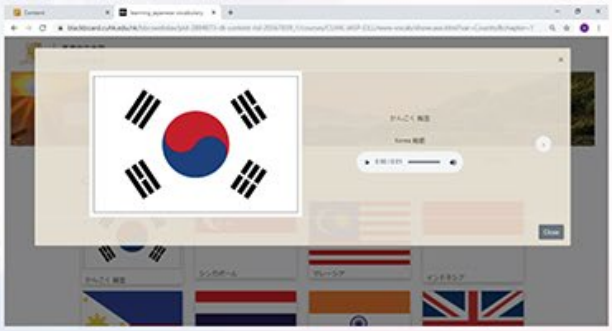
Project objectives

- Create an eLearning platform for the elementary Japanese language learning Level 1 and 2 in CUHK.
- Provide support to the current Japanese language textbooks (Nihongo Book 1 and 2, Chapter 1-24) with flexibility.

Structure of courseware

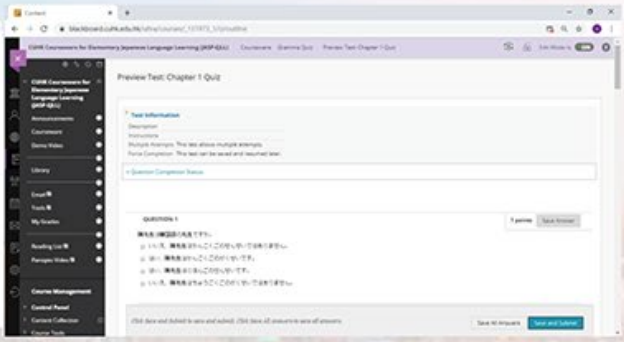
Learning Vocabulary

- Introduce new vocabularies which are related to the topics in textbooks but not included in the textbook.



Vocabulary Game
- **Check the vocabulary knowledge in 'Learning Vocabulary'**

Grammar Quiz
- **Check the grammar knowledge by using new vocabularies**



Scoring system is available for Vocabulary Game and Gramma Quiz by each chapter.

User name: cuhk-jasp-s1

Password: nihongo

Login link: https://blackboard.cuhk.edu.hk/webapps/login/?action=default_login

Talk: eLearning Courseware for Elementary Japanese Language Learning in CUHK

Presented by
Prof. Chi Ming HO, Department of Japanese Studies, The Chinese University of Hong Kong

Abstract
This project is supported by The Chinese University of Hong Kong Courseware Development Grant (2018-19). This eLearning courseware aims to create an eLearning platform for the elementary Japanese language learning Level 1 and 2 in The Chinese University of Hong Kong (CUHK). The set of original Japanese language textbooks published by Department of Japanese Studies, CUHK is the main teaching materials for all CUHK elementary Japanese language courses. This set of textbooks was first published in 1992. Although it has been revised a few times in recent years but there is still no eLearning component included. Therefore students still cannot benefit from the rich resources of eLearning in this technology-driven era. In order to fill this gap, this eLearning courseware provides a series of learning materials based on the content of the textbooks. This eLearning courseware serves as a support to the current textbooks (Japanese Book 1 and 2, Chapter 1-24) and provides channels for further development of language skills and knowledge under relevant topics in each chapter. This eLearning courseware is focused on developing learning materials for students to access and supporting students' interactions by interactive activities including online exercise, quiz, introduction of new vocabularies. It is also focused on formative assessments through those exercises and quizzes. This eLearning courseware demonstrates originality in the enrichment of eLearning of Japanese language with the support of CUHK original teaching material which cannot be found elsewhere.

View **Poster**
View **Video**
View **Paper**

Online Venue
Room A

Areas of Interest
Language Learning

Talk: E-learning Readiness of University Students in Hong Kong: Students' Expectation and Pedagogical Implication in Teaching Chinese as a Second Language

Presented by
Dr. Siu-lun LEE, Yale-China Chinese Language Centre, The Chinese University of Hong Kong

Abstract
This presentation demonstrate a case study concerning students' e-learning readiness of university students in Hong Kong. The study used questionnaire survey and focus-group discussions to elicit students' expectations towards using information technology in language learning. Students' expectations were compared with institutional targets. The result showed that the characteristics, habits and expectations of students; though may subject to change with the advancement of computer technologies; may not always match with institutional targets. If such mismatch happened, institution/teachers needed to understand students' IT habits and expectations, on one hand; and on the other hand, instructional strategies, trainings for teachers and students are needed to be developed in order to smooth the normalization process.

Online Venue
Room A

Areas of Interest
Language Learning

LEARNING BY DOING

Talk: Curriculum Design of the New Experiential Learning GE Course UGEB2296 in Agriculture

Presented by
Dr. Kenneth Ming LI, Office of University General Education, The Chinese University of Hong Kong
Mr. Eugene CHAN , Office of University General Education, The Chinese University of Hong Kong

Abstract
UGEB2296 "Experiencing and Rethinking Science and Technology in Agriculture" is a newly developed experiential learning GE course first launched in the summer semester of 2018/19. After taking this course, students are able to describe and compare the principles and practices of modern agriculture and permaculture, be capable of analyzing a multitude of agricultural ethics, as well as to formulate personal views on how to live more ethically with nature. Students are encouraged to further reflect on the sustainable relationships between humanity, nature, and the 17 Sustainable Development Goals (SDGs) promoted by the United Nations. This experiential learning course is designed with three parts, namely a pre-trip lecture, an overseas study trip and a post-trip seminar, to address various pedagogical needs. The one-day pre-trip lecture in CUHK provides pre-requisite knowledge on agriculture and permaculture, contemplation of relevant ethical issues, and general pictures of the SDGs. The six-day overseas study trip to Permaculture College Australia provides a precious opportunity for students to take part in diverse farming and permaculture practices with the guidance of Robyn Francis, a master and educator in permaculture. After the trip, students can apply the permaculture principles to re-design the Lake Ad Excellentiam in CUHK into a permaculture farm and present in the post-trip seminar. Selected final papers on the integration of permaculture principles and SDGs are nominated for the presentations at international conferences. This presentation shares the ideas and concerns when designing the experiential learning GE course.

Online Venue
Room B

Areas of Interest
Learning by Doing

Talk: Outreach and Education in Performing Arts: Advocating Arts to the Public

Presented by
Prof. Fanny Ming Yan CHUNG, Faculty of Arts, The Chinese University of Hong Kong

Abstract
Focusing on the outreach and education programmes of the major performing arts groups in Hong Kong which are directly funded by the HKSAR government, the research will examine the emergent forms of outreach and education programmes as they relate to audience development. While outreach and education has been an indispensable sector of the major performing arts groups, there is very little known about the implementation and impacts of these programmes. This study aims to: (i) understand how the cultural leaders perceive the role of outreach and education in performing arts institutions; (ii) investigate how the outreach and education sector contributes to audience building in performing arts; and (iii) reveal the conditions that support and challenge the development of outreach and education in the major performing arts institutions in Hong Kong.

This study was largely grounded in fieldwork centred around the cultural leaders and practitioners of the major performing arts groups. Interviews with six cultural leaders who are at the top management level, and extensive observations (e.g. workshops and performances) were conducted during the fieldwork. Also, archival research on outreach was conducted and this has brought important insights into the changing ecology of cultural development in Hong Kong.

This project will contribute to understandings of the role and impacts of outreach and education programmes of the major performing arts groups in Hong Kong, particularly in relation to audience development. The findings may also have significant implications for the cultural development and policy-making in performing arts in Hong Kong and beyond.

View **Paper**

Online Venue
Room B

Areas of Interest
Learning by Doing

Talk: Patient's Role in Interprofessional Education in the Community

Presented by
Prof. Vivian Wing Yan LEE, Centre for Learning Enhancement And Research, The Chinese University of Hong Kong
Mr. Felix Yan Hin FONG, Centre for Learning Enhancement And Research, The Chinese University of Hong Kong

Abstract
Background:
To investigate whether providing inter-professional elderly service learning activities to university students can improve their geriatric care knowledge and understanding on patients' needs.

Summary of Work:
This inter-professional education (IPE) project involved 271 CUHK students of different disciplines across Faculty of Medicine, Department of Social Work, and Food and Nutritional Sciences programme. They participated in 78 sessions of community outreach service and reached out to 3723 community-dwelling older patients.

Students were assigned to carry out various duties during outreach service, such as conducting health interview, providing basic health check-up service, and giving health education to the patients.

Summary of Result :
We conducted pre and post project learning outcome evaluation among the students, and we found significant improvements among the students on following areas: understanding in geriatric care (+17.2%, $p<0.05$); medication safety (+11.3%, $p<0.05$); elders' needs (+9.8%, $p<0.05$); attitude toward interprofessional education (+67%, $p<0.05$).

All in all the students appreciated this IPE learning experience as they got to serve with students of other disciplines and able to understand the physical and psychosocial needs of the patients through their direct interaction during outreach service.

Discussion & Conclusion:
Patients play an important role in interprofessional service learning. They are helpful for the growth of healthcare students and the development of high quality patient care in the long run.

Take-home Message:
In parallel with providing health service, students can also learn valuable real world experience from patients and peers of other disciplines.

Online Venue
Room B

Areas of Interest
Learning by Doing

Talk: Permaculture in Practice: The Fun Learning Experience in Australia

Presented by
Dr. Kenneth Ming LI, Office of University General Education, The Chinese University of Hong Kong
Mr. Eugene CHAN , Office of University General Education, The Chinese University of Hong Kong

Abstract
Learning-by-doing is a significant learning approach that allows students to interact with the environment for authentic learning, improves their engagements, and enriches their learning experience. In the summer semester of 2018/19, 20 students from different disciplines had experienced a unique experience to practice permaculture in an overseas study trip in the new GE course UGEB2296 "Experiencing and Rethinking Science and Technology in Agriculture". The six-day experiential learning trip in Permaculture College Australia had bridged the gap between the knowledge of permaculture ethics and principles and real-life situations and practices. Concepts of permaculture were not only obtained from lectures and interactive discussion but also pursued from the diverse permaculture-related learning activities, such as fertilizing soil, gardening and tree-planting, documentary watching under the star-light, taking care of livestock, visiting neighboring farmlands and local markets. Students' comments showed that experiential learning could boost up their learning efficacy accompanied by great satisfaction and enjoyment. Besides, the wild-camping experience in winter, such as bucket-showering in chilly nights, sharing of life-stories while stargazing, and performing in a talent show, has strengthened students' bonding and improved the peer-learning atmosphere. This presentation shares students' fun learning and living experiences in the trip.

Online Venue
Room B

Areas of Interest
Learning by Doing

MMCD AND MOOC

Talk: Facilitating the Self-learning of Cantonese: An Innovative e-Approach

Presented by
Dr. Pit Shun LAI, Department of Chinese Language and Literature, The Chinese University of Hong Kong
Mr. Ka Fai YIP, Department of Chinese Language and Literature, The Chinese University of Hong Kong
Mr. Yik Po LAI, Department of Chinese Language and Literature, The Chinese University of Hong Kong

Abstract
CanTONEse, a self-learning mobile app for Cantonese tones, was designed to support the learning of non-local students in Chinese Language Proficiency Courses. Teaching materials with recordings, self-assessment exercises, an interactive game and daily conversations are available in the app. One distinguishing feature of the app is the visualisation of tones. Throughout the app, tones are (1) colour-coded, (2) represented by movements of animals according to pitch heights and contours, and (3) drawn on a music score sheet, enabling a concrete and intuitive representation of tones. Another prominent feature is interactive learning with multimedia materials. Interactive functions including (a) recording function, (b) a tone-shape game and (c) five video clips of daily conversations are provided to improve tone production and perception. With the app, the students' learning of Chinese could be facilitated outside classrooms. The app has been introduced to non-local students of CHLT 1102 Elementary University Chinese I, CHLT 1202 Elementary University Chinese II and CHLT 1104 Elementary Self-Learning Chinese in the 2019-20 academic year. Together with a detailed explanation on the design of the app, various functions will be demonstrated, as well as showing how the app contributes to Chinese Language Proficiency Courses. A further step is to promote the app to different teaching units in CUHK, and it would be our pleasure to receive comments from experts.

Online Venue
Room B

Areas of Interest
MMCD and MOOC

Talk: Micro-Modules using Scenario-based Learning to Teach Concepts and Assessment Framework about Racial Prejudice and Discrimination

Presented by
Mr. Kar Choi CHAN, Department of Social Work, The Chinese University of Hong Kong
Prof. Raees Begum BAIG, Department of Social Work, The Chinese University of Hong Kong
Mrs. Helina YUK, Department of Social Work, The Chinese University of Hong Kong

Abstract
A micro-module development project focusing on cultural prejudice and racial discrimination was funded by the Course Development Grant Scheme of CUHK. The project had the Equal Opportunity Commission participating as both project collaborator and content advisor.

The micro-modules consist of 3 scenario-based and 1 documentary e-learning short videos. These videos are used as flipped classroom materials, to stimulate in-class discussion, to assess students' grasp of knowledge and to enhance their capacity to evaluate situations of suspected discrimination or prejudicial treatments faced by ethnic minorities. The learning exercise pertaining to the 3 re-enacted drama videos involves scenario-based exploration, reflective discussion and legal framework assessment; while the documentary aims at developing perspective understanding of cultural adjustments and challenges encountered by members of ethnic minorities living in Hong Kong.
In the evaluation of the micro-modules, a great majority of students (87%-100%), who completed the post-screening questionnaires indicated that they were satisfied with the 3 re-enacted scenario videos plus the documentary in the following respects:
1. Aroused greater interest in classroom discussion
2. Was more interesting to learn about racial discrimination and rights issues than a conventional classroom lecture
3. developed a better awareness or knowledge about possible racial discrimination faced by ethnic minorities in the context highlighted

Moreover, 21 representatives from both educational and social service sector were invited to join the premiere of the videos. Their feedback and suggestions with regards to the considerations of adopting these e-learning videos as training materials in different settings would also be shared in this presentation.

View **Video**

Online Venue
Room B

Areas of Interest
MMCD and MOOC

Talk: Online Micro-Modules Library Production for Fundamental Programming Courses with Active Learning (A TDLEG Project Sharing Session)

Presented by
Mr. Rudi CHOW, Faculty of Engineering, The Chinese University of Hong Kong

Abstract
Recent research has demonstrated several advantages of micro-modules over lengthy videos and in-class lectures. For example, micro-modules are shown to focus more on the subject, are more suited for personalized learning, are better at enhancing attention span and are constructive for learner-centered approach. One of the challenges that engineering faculty teachers encounter is a significant number of the first-year students lacking the experience and acquire only limited information of basic programming concepts. Another challenge we would like to address is to enhance teaching and learning in the faculty by standardizing the programming language training that is available online for our students. In this sharing session, we will share the stages and the process of developing Online Micro-Modules Library (OML) for fundamental programming courses in order to bridge the knowledge gap issue and also to enhance teaching and learning experience for first-year engineering students. We use Analyze, Design, Develop, Implementation and Evaluation (ADDIE) model as the foundation and the methodology for OML development. This OML incorporates illustrations, shorts videos and coding exercises as part of active learning components as appropriate. Additionally, active learning is also achieved by revising basic programming concepts through collection of examples and online quizzes, and personal reflection on the result of their achievement at the end of the course. Thus, it leads to higher programming competency and enhances first-year students' learning motivation while at same time also contributes to the promotion of eLearning initiative at the faculty level as well as the university through online catalogues and high-quality repositories.

Online Venue
Room B

Areas of Interest
MMCD and MOOC

ONLINE ASSESSMENT

Talk: Do Law Teachers in Hong Kong have an Awareness of Outcomes-based Education (OBE)?

Presented by
Ms. Jenny Y CHAN, Faculty of Law, The Chinese University of Hong Kong

Abstract
Outcome-based Education (OBE) is an integrated educational approach, which has emerged from primary and secondary education in the US. OBE suggests that teachers should organize curricular activities around learning outcomes to achieve improved student learning. OBE places emphasis on teaching skills that students can perform long after the formal learning process is over. Because of its pedagogical appeal, regulators around the world are moving towards adopting OBE for the regulation of law schools according to a set of prescribed outcomes.
This paper is part of the thesis, 'Outcome-based Education for Legal Education in Hong Kong: A Mixed-Method Study'. The thesis comprises an original empirical research, which aims to study the status of OBE implementation in legal education in Hong Kong. Of particular interest is awareness of OBE among law teachers in Hong Kong. The finding of the empirical research shows that law teachers have little or no awareness of OBE.
This paper begins with a terminological framework of OBE and underlying concepts. Then, it explains the design of the empirical research for the thesis focusing on law teachers' awareness of OBE. The findings of the research show that law teachers in Hong Kong may not have sufficient OBE awareness. Finally, this paper examines the possible effects COVID 19 may have on law teachers' awareness of OBE and makes recommendations for future research.

Online Venue
Room B

Areas of Interest
Online Assessment

EVALUATION OF THE CONCERNS & BARRIERS OF ONLINE ASSESSMENT AT CUHK: STUDENTS' PERSPECTIVES

Vivian WY Lee, Paul LC Lam, Judy TS Lo
The Center for Learning Enhancement And Research
3943 8012 | vivianlee@cuhk.edu.hk

BACKGROUND

Assessment is crucial in teaching to evaluate how well students understand the taught materials, with written examinations being the most common method. Yet, the recent pandemic (COVID-19) discourages human contact. Therefore, the implementation of online teaching and assessment is important during this crisis. Online assessment could be challenging with various issues that will impact teachers and students. As a result, we would like to analyze students' voices and views about the implementation of online assessment at CUHK.

ONLINE ASSESSMENT TYPES

AIMS & OBJECTIVES

Evaluate the advantages and disadvantages, effectiveness, obstacles and difficulties of online assessments via surveys and in-depth interviews.

We aim to evaluate the 3 aspects:

(1) perceived effectiveness of using Zoom in assessment;
(2) barriers and problems of using online assessment;
(3) suggestions for improvement.

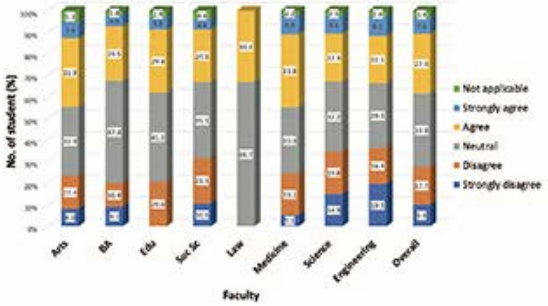
SURVEY TARGETS

All CUHK students are eligible to participate in this research, including eight faculties:

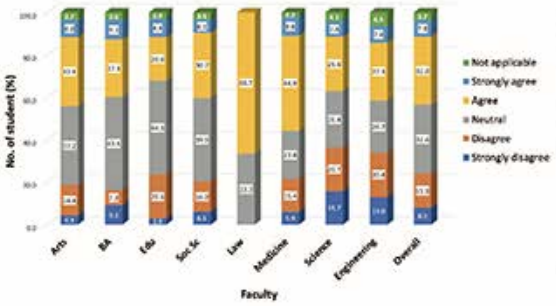
RESEARCH TIMELINE

SURVEY FINDINGS

ONLINE ASSESSMENT CAN ADD VALUE TO STUDENTS' LEARNING AND STRENGTHEN THEIR KNOWLEDGE (BY FACULTY)



ONLINE ASSESSMENT CAN EVALUATE HOW WELL THE STUDENTS CAN UNDERSTAND THE TAUGHT MATERIALS (BY FACULTY)



MAJOR BARRIERS & PROBLEMS FACED BY STUDENTS IN ONLINE ASSESSMENT

- Technical problems (52.61%) such as unstable IT connection;
- Environmental problems (11.19 %) such as noisy surroundings;
- Self-related issues (10.63%), such as lack of motivation;
- Online assessment design issues (8.4%);
- Lack of presentation support and feedback from classmates (6.53 %);
- Inadequate support from teachers (6.16%).

SUPPORT STUDENTS MAY NEED TO ENHANCE ONLINE ASSESSMENT

- Provide adequate technical support (14.83%) such as stable IT connection;
- Provide more support for online assessment design (25.84%);
- Provide presentation support and feedback for students (0.96 %);
- Provide more support from teachers (18.18%);
- Help to solve the environmental problems (3.35%) such as noisy surroundings;
- Provide more support from the university (25.84%).

According to the survey from May to June 2020, 35.2% of the 728 respondents showed agreement, while 33.8% answered 'neutral' that online assessment could add value to their learning and strengthen their knowledge. Besides, 39.8% of students agreed, while 32.6% remained neutral that online assessment could evaluate how well the students could understand the taught materials. However, it is found that 53% of students indicated that the major barriers to online assessment were technical problems and therefore students requested for various types of technical support from the university, as well as from their teachers. These results indicated that the continued adoption of online assessment could be enhanced through curriculum planning and the betterment of the teaching and learning environment.

The project is supported by Teaching Development and Language Enhancement Grant (TDLEG) for the 2019-22 Triennium. Copyright © 2020. All Rights Reserved. The Chinese University of Hong Kong.

Talk: Evaluation of the Concerns and Barriers of Online Assessment - Students' Perspectives

Presented by
Prof. Paul LAM, Centre for Learning Enhancement And Research, The Chinese University of Hong Kong
Judy LO, Head, Education Technology, Information Technology Services Centre, The Chinese University of Hong Kong
Prof. Vivian Wing Yan LEE, Centre for Learning Enhancement And Research, The Chinese University of Hong Kong

Abstract
The implementation of online assessment was commenced during the COVID-19 pandemics. The current paper will share our findings related to the online assessment at the Chinese University of Hong Kong. In this survey, we adopted both qualitative and quantitative approaches to evaluate (1) the perceived effectiveness of using ZOOM in online assessment; (2) barriers and problems of using online assessment; and (3) suggestions for improvement. The online survey was conducted from May to June 2020, 728 full-time undergraduate and postgraduate students have completed the questionnaires. Forty-three undergraduate students attended an individual interview. For the perceived effectiveness of online assessment, 33.8% of students were neutral on whether online assessment could add value to their learning and strengthen their knowledge and 32.4% of the students were neutral on whether online assessment could evaluate how well the content they were taught. Problems faced by the students included technical problems (49.39%) such as unstable IT connection, followed by self-related issues (9.46%), such as lack of motivation; environmental problems (9.28 %) such as noisy surroundings; online assessment design issues (7.01%); inadequate support from teachers (5.6%); lack of presentation support and feedback from classmates (5.25 %). Suggestions for improvement such as increasing the proportion of formative assessments; providing quiet study zones; giving more online mock exams; designing the exam questions in a user-friendly way that can prevent cheating; providing financial support to upgrade students' equipment and internet connection were proposed. Implications for future curriculum and assessment design will be drawn at the end of this project.

View **Poster**
View **Video**

Online Venue
Room B

Areas of Interest
Online Assessment

Talk: Lessons Learnt from Conducting Online Examinations for A Class of 230+ Students

Presented by
Dr. Josephine Wing Sze LAU, School of Biomedical Sciences, The Chinese University of Hong Kong
Dr. Simon Chak Leung AU , School of Biomedical Sciences, The Chinese University of Hong Kong

Abstract
We report on conducting online exams for Year Two medical students. These are closed-book exams of three major courses scheduled on different dates. Each exam comprised 2-3 papers [MCQ, SAQ and practical (mostly with images requiring short answers)] and each paper lasted 60-90 min. Students took the exam under Blackboard (CUHK/China) using LockDown Browser/Respondus Monitor together with "Zoom" live invigilation/video recording. Students were well informed of the exam arrangement, provided with troubleshooting guides, required to attend two mock exams and given unlimited access to practice test site. Fourteen students opted to take online exams back on campus due to poor internet connectivity or unfavourable environment at home. 234 students (four in Mainland) were divided into ten "Zoom" groups to facilitate invigilation and to stagger their time of activating the LockDown Browser and starting the exam under Blackboard. Students were pre-assigned to join four separate but identical online exams to avoid overloading a single test site. For MCQ, we adopted a single randomization of options and allowed backtracking. In the first and a half day of exams, 15 and 28 students experienced difficulties with LockDown Browser or early exit from exams. For the remaining exams, we switched to release MCQ and practical exam questions all at once instead of one by one, and students encountering difficulties dropped to 2-3. In conclusion, we could work on the exam setting and avoid concurrent exams with other major programmes, while random errors with servers and devices used for taking online exams are beyond control.

Online Venue
Room B

Areas of Interest
Online Assessment

nline assessment strategies: Insights from Recent Studies

Memebers/ Contacts:

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Dr. Florence Mei Kuen Tang
florencetang@cuhk.edu.hk

School of Biomedical Sciences, CUHK

Challenges and Opportunities: The COVID-19 Influence

In view of the outbreak of COVID-19, the University recommended teachers to facilitate and conduct online assessments and to avoid face-to-face examinations. Traditionally, tests and exams are key components in continuous assessment to assess and monitor students' learning and academic progress.

To assess our students based on the criteria recommended by the University, we have revised our assessment schemes for our course, SBMS1432 Human Anatomy and Physiology II, accordingly, and replaced all on-campus assessments with online assessments or e-assessments. It was a big challenge as changing the assessment format into an online mode involved a tremendous amount of work and effort putting together to ensure the academic integrity maintenance and success of the systemic computer technology approach when compared with the traditional written assessment.

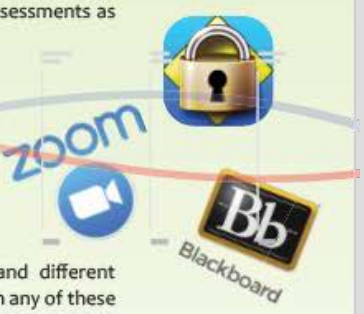
Objectives

We investigated on the feasibility and effectiveness of the revised assessment methods and how to maintain the academic integrity for the online assessments in the course, SBMS1432, Human Anatomy and Physiology II with a class size of about 70 students.

Methodology

We set a total of two multiple-choice question online tests and one online exam in this course. We have analyzed and compared various formats for display and different combinations of invigilation methods in the online assessments as shown.

Formats of Multiple-Choice Question Setting	Invigilation Methods
1. Display all questions at a time	a. Blackboard with Zoom monitoring
2. Display questions one at a time (Trial only)	b. Lockdown Browser with Response Monitor
3. Display all questions at a time	c. Lockdown Browser with Response Monitor plus Zoom monitoring
4. Randomize the order of questions or answers	d. Lockdown Browser with Zoom monitoring



Discussions

After having tested and analyzed the feasibility and the effectiveness of each of these formats and different combinations of invigilation methods of the online assessments, we found that there were pros and cons in any of these methods. Therefore, there is indeed no "magic" solutions to ensure the academic integrity of students. On the one hand, we trust our students. On the other hand, we ought to provide fair assessments and ensure academic integrity. We could only do our best to minimize the chance of cheating while ensuring that these online assessments could serve as appropriate assessments for our students and preventive measures against the potential spreading of COVID-19.

Take Home Messages

To conclude, it is important to ensure a stable internet connection on both ends (examiners/invigilators and students), provide clear and detailed instructions and guidelines to both students and invigilators with test trials in advance, and a smooth systemic invigilation process. In the future, there is a need to promote academic integrity widely on campus. Both teachers and students should have mutual understanding about the standards and the consequences of the academic dishonesty and cheating.

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Division of Education, School of Biomedical Sciences, Faculty of Medicine, CUHK
Mr. Ray Lee, Information Technology Service Center, CUHK
Prof. Simon Au and Ms. Shirley Tsui, Division of Education, School of Biomedical Sciences, Faculty of Medicine, CUHK

Talk: Online Assessment Strategies: Insights from Recent Studies

Presented by
Dr. Molly P.M. WONG, School of Biomedical Sciences, The Chinese University of Hong Kong
Dr. Florence M.K. TANG, School of Biomedical Sciences, The Chinese University of Hong Kong

Abstract
Traditionally, tests/exams are key components to assess and monitor students' learning and academic progress. The standard pen-and-paper format is usually adopted to test students' understanding on the subject matter in proctored tests/exams. To ensure academic integrity and fairness, students are arranged in classrooms to complete the tests/exams in proctored environments to prevent cheating.

In view of the outbreak of COVID-19, the University recommended teachers to conduct online assessments. Based on these criteria, we revised our assessment schemes for our course, SBMS1432 Human Anatomy and Physiology II. It was a big challenge as changing the assessment format into an online mode involved a tremendous amount of effort to ensure the success of systemic computer technology approach when compared with traditional written assessment.

In our presentation, we will discuss and share our experiences about our assessment strategies, and how we managed to maintain academic integrity for the online assessments. There was a total of three multiple-choice question online tests/exams. We designed and conduced them in various formats, a) display all questions at a time, b) display questions one at a time, and c) randomize the order of questions/answers. Furthermore, we adopted three different combinations of invigilation methods, i) Blackboard with Zoom monitoring, ii) Lockdown Browser with Response Monitor plus Zoom monitoring, and iii) Lockdown Browser with Zoom monitoring.

To conclude, it is important to ensure a stable internet connection, provide clear and detailed instructions and guidelines to both students and invigilators with test trials in advance, and a smooth systemic invigilation process.

View **Poster**
View **Paper**
View **Video**

Online Venue
Room B

Areas of Interest
Online Assessment

ONLINE TEACHING

Talk: Engaging Students in Online Learning : A Self-determination Theory Perspective

Presented by
Prof. Thomas Kin Fung CHIU, Department of Curriculum and Instruction, The Chinese University of Hong Kong

Abstract
Online learning environments are diverse and dramatically different from face-to-face classrooms. How students engaged is very different in online learning (Chiu & Hew, 2018). Student engagement that comprises of three dimensions - behavioural engagement, emotional engagement, and cognitive engagement, is considered an important aspect of online education, which can be explained by the self-determination theory of motivation (Deci & Ryan, 1985). The theory posits that all individuals possess three fundamental psychological needs that move them to act or not to act – the needs for autonomy, relatedness, and competence (Deci & Ryan, 1985). Online learning environments support the three needs are more likely to behaviourally, cognitively and emotionally engage students in learning

This presentation aims to share some instructional strategies that support the three needs, resulting in better student engagement. For example, how to use collaborative group multimedia eportfolios to enrich various classroom interactions: students within group, between groups, teachers and students; how to facilitate conversations in discussion forum; how to redesign course to increase sense of belongings. The presenter used pre-, mid- and- post survey to collect students' feedback and views on their engagement to investigate how the strategies work.

The results indicated (i) the eportfolios encouraged collaborative leaning, peer assessment and self-assessments; (ii) multimedia and/or multiple representations made them feel autonomy and competent and motivated them to learn and share, (iii) the students behaviorally, cognitively and emotional engaged in the discussions; (iv) the overall instructional design increased level of relatedness.

Keywords:student engagement, online learning, assessment

Online Venue
Room C

Areas of Interest
Online Teaching I

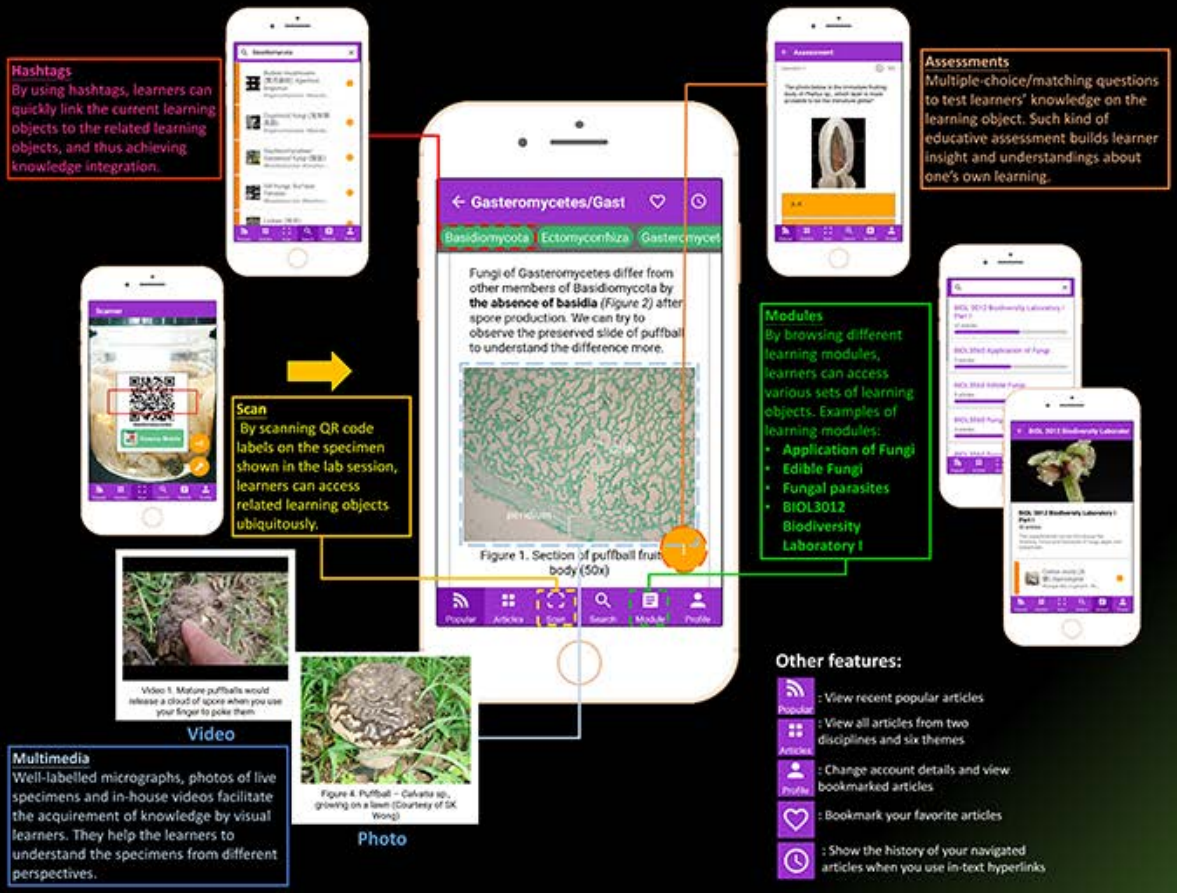
Learning Fungal and Plant Biology via "Science Mobile"

Cheung-Ming Chow, Siu-Kwan Wong & Ka-Man Carmen Cheng
School of Life Sciences

Introduction

Our project enhances the learning experience for students by

- promoting **ubiquitous learning** by digitalising lab specimens and wildlife examples with relevant information and explanation;
- fostering **knowledge integration** with ***hashtags*** and ***in-text links*** for swift connection to related topics;
- guiding students with **learning modules** so that they can go step by step in their learning pathway;
- encouraging **self-learning** with self-assessment and in-class sharing.



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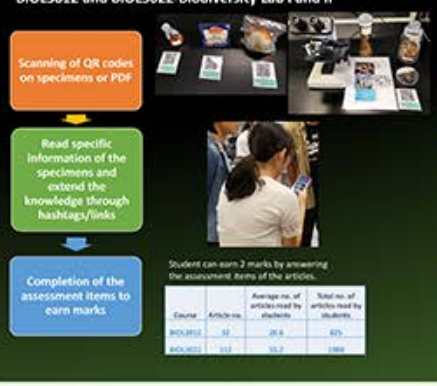
Implementation

Lab Courses:
BIOL3012 and BIOL3022-Biodiversity Lab I and II



Lecture Courses:
BIOL3560-Biology of Fungi and Non-vascular Plants
BIOL3570-Biology of Vascular Plants

Module Statistics
Students' performance in assessment can be viewed on the teacher panel of Science Mobile. Course instructors may use the statistics for evaluation and grading.

Conclusion and Future prospective

We have so far created over 226 learning objects and 15 modules/learning paths under the themes "Plant Biodiversity" and "Fungal Biodiversity" in "Science Mobile" apps, including 19 videos, 1080 photos, 43 illustrations, 397 questions and 800 hashtags/links in addition to the basic information and descriptions. In the coming few months, we aim to enrich the themes with additional videos and learning objects.

Items	Uploaded	Goals
Learning objects	226	240
Photos	1080	~ 1200
Illustrations	43	
Videos	19	
Questions	397	~400

The courseware is supported by UGC-Funded Teaching and Learning Related Initiatives (2016-2019 Triennium) (as a part of the project "Establishment of Ubiquitous Learning in Teaching and Learning Science for Knowledge Integration (Chemistry and Life Science)").

Talk: Learning Fungal and Plant Biology via "Science Mobile"

Presented by
Dr. Cheung-Ming CHOW, School of Life Sciences, The Chinese University of Hong Kong
Mr. Siu-Kwan WONG, School of Life Sciences, The Chinese University of Hong Kong
Ms. Ka-Man Carmen CHENG, School of Life Sciences, The Chinese University of Hong Kong

Abstract
To promote knowledge integration, self-learning and ubiquitous learning among Biology students, we have so far created over 226 learning objects and 15 modules/learning paths under the themes "Plant Biodiversity" and "Fungal Biodiversity" in "Science Mobile" apps, including 19 videos, 1080 photos, 43 illustrations, 397 questions and more than 800 hashtags/links in addition to the basic information and descriptions.
In the pilot test during the 1st term of 2019-20 academic year, "Science Mobile" has been implemented in one lab course (BIOL3012) and one lecture course (BIOL3560). In the lab course, to achieve ubiquitous learning, students were directed to the specimen-related learning objects in "Science Mobile" after scanning QR codes on the specimens. With the hashtags/links provided, this helps lab students to not only appreciate the significance of specimen features but also integrate their observations with knowledge from the relevant lectures. In the lecture course, to promote self-learning and knowledge sharing, each student was assigned to read a module in "Science Mobile" and then shared his/her knowledge in the class activity. In both courses, the student performance in the self-tests of "Science Mobile" is included in the course assessment's scheme. During the 2nd term, "Science Mobile" has also been used in the distance learning. For the lab course (BIOL3022), PDF files with QR codes have been provided while students of a lecture course (BIOL3570) used relevant modules in "Science Mobile"for preparing their breakout room discussion.

View **Poster**
View **Video**

Online Venue
Room C

Areas of Interest
Online Teaching I

Talk: Management Teaching: How to Flip and not Flop

Presented by
Dr. Joyce IUN, Department of Management, Faculty of Business Adminstration, The Chinese University of Hong Kong

Abstract
Between 2015 and 2016, I received two Micro-Module Courseware Development Grants at CUHK to experiment the concept of flipped-teaching. My first trial took place in Term 1, 2015-16. I flipped and I flopped. Feedback from students informed me that they liked the videos and welcomed the flipped learning materials available on-line for pre-viewing and reviewing. Yet, they found participating in multiple graded on-line assignments time consuming. With their comments in mind, I modified the usage and assessment methods. I managed to continue flipping without flopping. To name a few, I changed flipped learning from compulsory to voluntary. I used different schemes to encourage student engagement in foundation and upper-elective courses. More importantly, I ensured online learning modules are brief and interesting. With all these ideas in mind, my new project funded by the Special Funding Scheme for Online Learning (TDLEG 2019-22) is to offer students nine theme-based animated video cases for classroom- and e-learning.
To sum up my 5-year experiences in designing and using flipped-teaching, I remain skeptical if flipped-teaching effectiveness may reflect on Course Teaching Evaluation. While teachers ask students to do online learning, teachers contribute equal or more efforts in re-designing teaching materials, classroom activities and assessment scheme. Online teaching remains a trial and error journey. Hopefully, there is a pot of gold at the end of the rainbow.

Online Venue
Room C

Areas of Interest
Online Teaching I

The Video Conference System Facilitates Synchronous Teaching and Learning in

Anatomy Education

Dr. Florence Mei Kuen Tang, School of Biomedical Sciences, CUHK
Dr. Wai Kai Wong, School of Biomedical Sciences, CUHK
Dr. Olivia Miu Yung Ngan, CUHK Center for Bioethics
Mr Ray Mau Fung Lee, Information and Technology Services Center

Authors

Mr Jack Kwan Ho Lai, School of Biomedical Sciences
Mr Fredrick Wai To Choi, School of Biomedical Sciences
Ms Yanny Wing Yan Wong, Faculty of Medicine
Mr Justin Chak Ting Cheung, School of Biomedical Sciences

Contact: Dr. Florence Mei Kuen Tang florencetang@cuhk.edu.hk 3943 6836

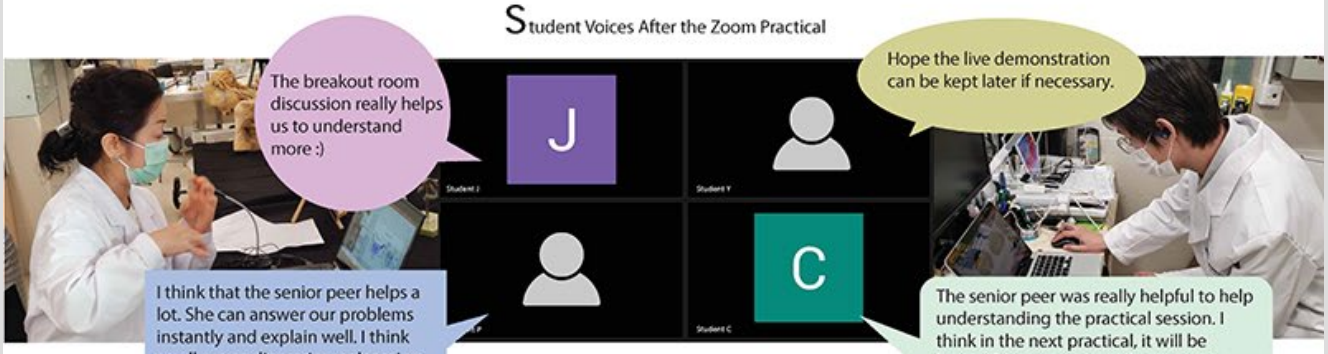
Background

Anatomy, a subject requires hands-on practicum, is unprecedentedly challenged by the restriction of face-to-face teaching in light of the pandemic. The Video conferencing system (VCS), such as the CUHK's adopted Zoom platform, is a real-time network connecting remote participants from different locations for interactive communication. It is a good alternative for subjects that requires didactic lectures only but might not be a realistic option for anatomy teaching and learning.

Objectives

This presentation describes 1) the challenges in modifying teaching materials that suit for online medium and 2) a teaching strategy in inviting senior peers from medicine (MBChB) and biomedical sciences programs to join the session with junior students from the biomedical engineering and pharmacy programs for discussion of the potential clinical relevance with their learning in anatomical structures.

Student Voices After the Zoom Practical

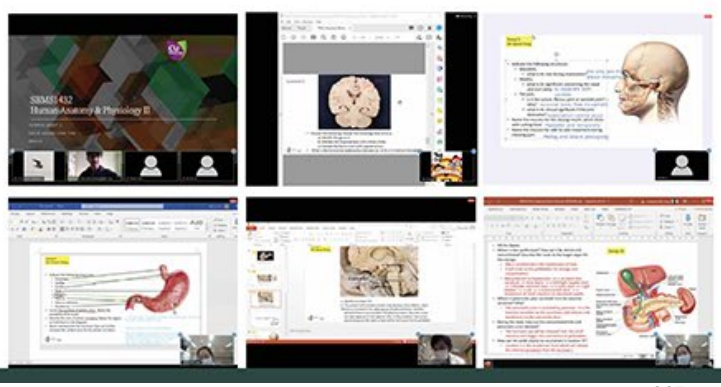


Discussions

Our experience and students' feedback showed that stakeholders overcome the limitation with some concerns. Compared with face-to-face teaching, the demand for teaching preparation for online is neither easy nor light but challenging at another escalated level. It requires a multiple-disciplinary effort in preparing video shooting ahead of the real-time class. On-sites challenges were encountered, including spatial examination of plantinated specimens, didactic interpretation of the anatomical structures and the clinical significance concerned about the structures.

Take Home Message

As this is the first time to run the practical zoom activity, there still have rooms for the improvements. Maybe teacher-in charge should not just one-way to conduct the contents of the learning material; students should do participate the discussion interactively; and more importantly, the internet connection should be stable.



Talk: The Video Conference System Facilitates Synchronous Teaching and Learning in Anatomy Education

Presented by
Dr. Florence Mei Kuen TANG, Division of Education, School of Biomedical Sciences, The Chinese University of Hong Kong
Dr. Wai Kai WONG, School of Biomedical Sciences, The Chinese University of Hong Kong
Dr. Olivia Miu Yung NGAN, CUHK Center for Bioethics, The Chinese University of Hong Kong
Mr. Ray Mau Fung LEE, Information and Technology Services Center, The Chinese University of Hong Kong
Mr. Jack Kwan Ho LAI, School of Biomedical Sciences, The Chinese University of Hong Kong
Mr. Fredrick Wai To CHOI, School of Biomedical Sciences, The Chinese University of Hong Kong
Miss Yanny Wing Yan WONG, Faculty of Medicine, The Chinese University of Hong Kong
Mr. Justin Chak Ting CHEUNG, School of Biomedical Sciences, The Chinese University of Hong Kong

Abstract
Anatomy, a subject requires hands-on practicum, is unprecedentedly challenged by the restriction of face-to-face teaching in light of the pandemic. The Video conferencing system (VCS), such as the CUHK's adopted Zoom platform, is a real-time network connecting remote participants from different locations for interactive communication. It is a good alternative for subjects that requires didactic lectures only but might not be a realistic option for anatomy teaching and learning.

This presentation describes 1) the challenges in modifying teaching materials that suit for online medium and 2) a teaching strategy in inviting senior peers from medicine (MBChB) and biomedical sciences programs to join the session with junior students from the biomedical engineering and pharmacy programs for discussion of the potential clinical relevance with their learning in anatomical structures.

Our experience and students' feedbacks showed that stakeholders overcome the limitation with some concerns. Compared with face-to-face teaching, the demand for teaching preparation for online is neither easy nor light but challenging at another escalated level. It requires a multiple-disciplinary effort in preparing video shooting ahead of the real-time class. On-sites challenges were encountered, including spatial examination of plantinated specimens, didactic interpretation of the anatomical structures, the discussion of clinical significance related to the structure and stability of the internet connection. Regarding this pilot study, there still have rooms for the improvements.

View **Poster**
View **Video**

Online Venue
Room C

Areas of Interest
Online Teaching I

Talk: Can Virtual Field Trip Substitute Physical Field Trip?

Presented by
Dr. Ervi LIUSMAN, School of Hotel and Tourism Management, The Chinese University of Hong Kong

Abstract
Field trip is not a new teaching and learning method. Teachers have been adopting field trip to extend the students' learning outside the classroom. Students can have a real-life connections during the field trip. Nevertheless, COVID-19 pandemic has posed a challenge to the practicability of the fieldtrip. When all classes were shifted to online teaching, the physical field trip ultimately could not be undertaken. An innovative approach should be adopted to ensure that learning will continue with good effect. This study aims to examine whether the virtual field trip can be used as a substitute for the physical field trip. In our study, the field trip is a part of the course where the students will observe the application of the real estate theories in downtown Hong Kong. We are developing two methods of the virtual field trip: a typical video and VR 360° tour. The students can indirectly experience the field trip by means of these methods. However, the two methods provide difference learning experience. The students may not actively engaged by watching the video. In contrast, utilizing VR 360° tour, the students may have interaction by moving around their electronic devices to observe the buildings. In our initial test using a typical video, 93% of the students agree that field trip video is a good alternative to substitute the physical field trip when the latter one is not feasible. Our study will contribute to the literature of innovation in education.

Online Venue
Room C

Areas of Interest
Online Teaching II

Teaching and Learning with Zoom: An Exploratory Study/ L. MARAFA, Z. WANG, C. S. CHAN

Introduction:

The study primarily focuses on the use of Zoom as a LMS to engage students in the teaching and learning context. Given that the university adopted the online teaching and learning using the Zoom platform as a stopgap initiative following the covid pandemic, how does it affect students' performance? The courses started on a traditional face-to-face format and subsequently moved into the online format. How effective were the online practices in teaching and learning? As an exploratory investigation, the objective is to investigate how the university can promote the community of learners in online platform like Zoom. Specifically, the study identified the perceptions, experiences, and attitudes of the students who participated in the courses.

Methodology:

An online questionnaire survey was conducted using a 6-point Likert scale on students that took three courses that were first started on face-to-face basis and switched to online format using Zoom. Questions were asked to identify what the students like or dislike in the online learning experiences. Open-ended questions were also asked to provide free flow responses without the constraints of a choice on scale.

Results:

Profiles of respondents:

Solid sample size: N = 146
Response rate: 24%

Table. Profiles of respondents.

	Frequency	Percent
Education level:		
Undergraduate	20	57.1
Postgraduate	15	42.9
Course type:		
UGE	14	40
Major	22	62.9
Elective	17	48.6
Gender:		
Female	30	85.7
Male	5	14.3

Overall satisfaction: Mann-Whitney U Test

Overall, are you satisfied with the learning experience on Zoom? (1 = highly unsatisfied; 6 = highly satisfied)

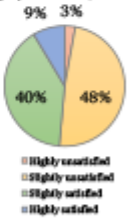


Figure. Pie chart of percentage in satisfaction level.

Zoom learning vs. Gender

Table. Median of the statement with significant differences.

Statements	Median			
	Female	Male	Mann-Whitney U	P
"I spent more time working on this course than my other courses"	4	2	24	.014

Zoom learning vs. Education level

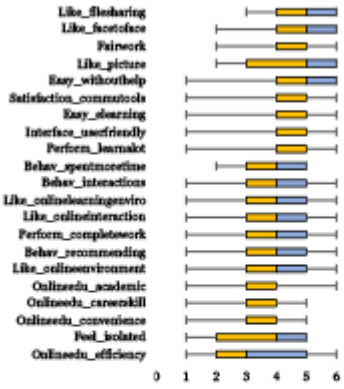
Table. Medians of statements with significant differences.

Statements	Median			
	Undergraduate	Postgraduate	Mann-Whitney U	P
"I spent more time working on this course than my other courses"	3.5	5	233	.014
"I would rather meet my instructors and classmates face-to-face rather than on Zoom"	5	6	253.5	.000
"I feel isolated and lonely as a result of the Zoom class"	2	4	237	.003
"Online education would allow me to do more work in less time"	4	3	74	.010

Students' experience of learning on Zoom:

Do you agree with the following statements?
(1 = highly disagree; 6 = highly agree)

- Students **agree** that they generally like the functions of zoom in their learning, while they still expect to meet with instructors and classmates face-to-face rather than on zoom.
- Students **slightly disagree** that online education are efficient.



Partial Confirmatory Factor Analysis (PCFA):

For the 21 agreement measures, **Cronbach's Alpha coefficient = .874**, indicating good internal consistency

Bartlett's test of Sphericity (χ 2 (210) = 556.297, p<0.001)

Kaiser-Meyer-Olkin measure of sampling adequacy (KMO = 0.658)

A series of factor analysis were conducted which indicated that **four factors** gave the most interpretable solution

An **Oblimin rotation** was performed since factors were expected to be correlated, resulting in a pattern matrix.

Four factors obtained are:

Factor 1: Preference of online education
Factor 2: Convenience
Factor 3: Functionality
Factor 4: Learning outcomes

67.726% of variance were explained by the four factors

Pattern Matrix[a]

	Factor			
	1	2	3	4
Onlineedu_convenience	1.003			
Onlineedu_efficiency	.782			
Onlineedu_academic	.568			
Onlineedu_careerskill	.539			
Easy_elearning		.899		
Easy_withouthelp		.838		
Like_onlinelearningservice			.816	
Like_onlineinteraction			.736	
Behav_recommending			.656	
Like_onlineenvironment			.612	
Like_filesharing			.597	
Feel_isolated			-.418	
Interface_userfriendly			.412	
Satisfaction_communtools				
Perform_completework				
Perform_learnalot				.885
Fairwork				.743
Behav_spentmoretime				.538
Like_facetoface	-.488			-.484
Behav_interactions				.482
Like_picture				

Extraction Method: Maximum Likelihood.
Rotation Method: Oblimin with Kaiser Normalization.
a. Rotation converged in 13 iterations.

Table. Fit indices for PCFA.

Fit index	Results	Acceptable Threshold Levels
NFI	0.891052507	>0.9 (Steiger, 2007)
CFI	0.827235794	>0.95 (Hooper, Coughlan, & Mullen, 2008)
TLI	0.891405356	>0.95 (Hooper, Coughlan, & Mullen, 2008)
RMSEA	2.7355037	<0.06 (Hu & Bentler, 1999)
SRMR	0.074485285	<0.08 (Hu & Bentler, 1999)

Preliminary summary and implications:

- Students generally like the functions of zoom in learning experience, while they still cherish face-to-face format
- Female students tended to feel more isolated as a result of Zoom than male students
- PGS spent more time, are more isolated, and felt less efficient in Zoom learning
- Students slightly disagree that online education is efficient
- Further research is needed with a larger sample size and CFA can be conducted to understand factors and overall satisfaction of learning.

Talk: Teaching and Learning with Zoom: An Exploratory Study

Presented by
Prof. Lawal Mohammed MARAFA, Department of Geography and Resource Management, The Chinese University of Hong Kong

Abstract
The CUHK commenced the online teaching and learning using the zoom platform as a stopgap initiative as a result of the Covid-19 pandemic. The university had earlier invested heavily on ICT in teaching and learning and have been involved in several Learning Management Systems (LMS) over the years. Such systems include the WebCT, Moodle and Blackboard as pseudo online/interactive platforms and have successfully developed the Ureply platform to enhance teaching and learning. The LMS along with the introduction of zoom, provide opportunities for communication, content delivery and assessment.
Until now, the university has perfected the use of the LMS that exposes students and instructors to the role of ICT as an elearning platform. The challenge was on how can the university promote a community of learners in an online platform like zoom? The benefits of a LMS that promotes elearning is the ability of learners and instructors to interact by chat, video and others to establish an effective process in teaching and learning. The study primarily focus on the use of zoom to engage students, deliver contents and materials and subsequently assess performance of students according to course(s) requirements. Three courses are used in this preliminary investigation. Given that the shift to the zoom platform was effected after classes were conducted on the traditional face-to-face format, how does it affect the student's performance? How effective were the online practices in teaching and learning? What are some examples of effective teaching and learning practices? The study presents an exploratory investigation designed to identify some advantages and disadvantages of teaching and learning with zoom essentially from the perspectives of students.

View **Poster**
View **Paper**

Online Venue
Room C

Areas of Interest
Online Teaching II

Talk: Using ZOOM for Engaging Students in Music Performance Lectures and Tutorials

Presented by
Prof. John WINZENBURG, Department of Music, Hong Kong Baptist University

Abstract
The unexpected, prolonged class suspension experienced in Hong Kong and elsewhere in AY2019/20 due to social unrest and the global pandemic has drawn our attention throughout academia to the needs of harnessing online teaching, learning, and assessment. Universities on all continents have already experienced a massive increase in the use of both synchronous and asynchronous online course delivery, with ZOOM suddenly emerging as a normative platform worldwide. The ongoing health crisis is necessitating a continuous transition to online learning into and beyond the coming school year. How have educators of varying disciplines adapted to the new contexts and approaches presented by the ZOOM platform?
This presentation focuses on the use of the online meeting tool ZOOM in teaching, learning, and assessment of music performance courses in the university setting. The presenter will share his experience of conducting interactive online classes with the platform, including the functional challenges, limitations, and advantages offered in the alternative mode in keeping students engaged over prolonged periods. By focusing on the non-traditional performing arts classroom setting, the presentation will offer instructors of other disciplines insights into course design when conducting teaching and learning online.

Online Venue
Room C

Areas of Interest
Online Teaching II

PEDAGOGICAL ADVANCEMENT

Talk: Creative Technologies – A Heuristic Approach to Digital Design and Fabrication Tools in the Classroom

Presented by
Mr. Adam FINGRUT, School of Architecture, The Chinese University of Hong Kong

Abstract
In Hong Kong, there is a persistent need across different disciplines to incorporate new technological processes in teaching and learning programmes, to address the increasing complexities of professional practice. In the architectural discipline, digital scanning, computational design and robotic fabrication are emerging as new teaching opportunities. However, technological tools are often regarded as final output devices, rather than as vehicles for exploration.

This presentation discusses a series of workshops conducted in the School of Architecture that demonstrate how emerging technology is integral in the cultivation of design thinking. They expose participants to a process of discovery learning. Tools are introduced to students to stimulate an iterative design and problem-solving approach, where a cycle of action, observation, reflection and reaction can occur. Exposure to these methods prepares students for their future careers in an increasingly technology-driven profession.
The workshops will introduce tools to 1) SCAN the three-dimensional properties of buildings or spaces, 2) DESIGN by responding to data with creative interventions, and 3) BUILD using classroom friendly robotic fabrication devices.

The teaching and learning processes within the programme were evaluated as part of its own ongoing development and as research into the evolution of architectural education through technology adoption.

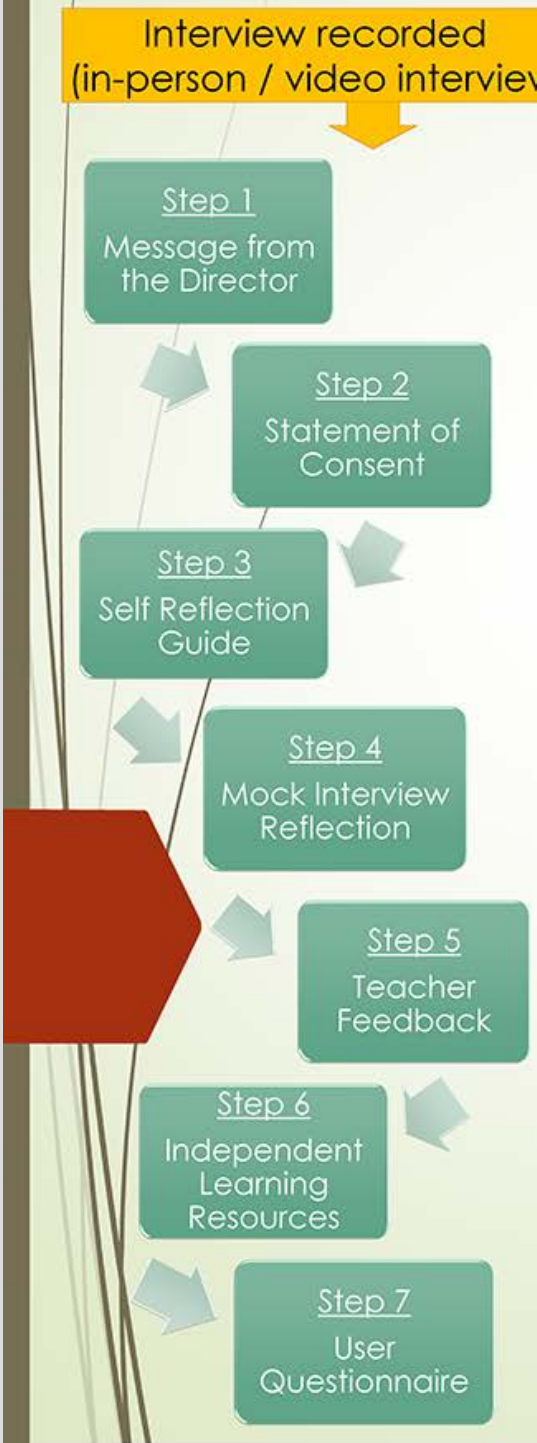
Online Venue
Room A

Areas of Interest
Pedagogical Advancement I

Introducing an Online Learning and Reflection Platform: The Interview Skills Development System (ISDS)

Sharon Wong, The Independent Learning Centre (ILC)

The ISDS is an online platform developed by the ILC for the Interview Practice and Self Reflection, the final element of our Job Preparation Series (JPS). It aims at helping individual students further develop their interview skills by putting theory into practice after they have attended at least one of our JPS workshops.



Results

From April 2015 to May 2019, 66 students (Group 27-56) took part in the ISDS (English).

Group	Personal Reflection (Accepted)	Video Clips (Accepted)	Personal Reflection (Complete)	User Comments (Complete)
G27-G56	84.8%	77.3%	48.5%	50.0%

Table 1 Percentage of Student Participation and Accepted Statement of Consent

	Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree	Incomplete
Q1. Watching my mock interview performance via video is useful in helping me prepare for future interviews.	0.0%	1.5%	0.0%	3.0%	21.2%	**24.2%**	50.0%
Q2. Writing an evaluation for my mock interview performance by using a checklist is useful in helping me prepare for future interviews.	0.0%	1.5%	0.0%	7.6%	**25.8%**	15.2%	50.0%
Q3. Reading the teacher's comments on my mock interview performance is useful in helping me prepare for future interviews.	0.0%	0.0%	1.5%	3.0%	12.1%	**33.3%**	50.0%
Q4. After the whole activity, I am more aware of my personal strengths and weaknesses during interviews.	0.0%	1.5%	0.0%	3.0%	**22.7%**	**22.7%**	50.0%
Q5. The web interface is user-friendly.	0.0%	1.5%	3.0%	9.1%	15.2%	**21.2%**	50.0%
Q6. The learning resources for further self-study that are recommended by the teacher are useful.	0.0%	0.0%	0.0%	6.1%	**22.7%**	21.2%	50.0%
Q7. I would recommend this activity to my peers.	0.0%	0.0%	0.0%	1.5%	**25.8%**	22.7%	50.0%

Table 2 Questionnaire Result: User Comments

Thirty-three (50%) participants completed the online questionnaire survey about the user comments of the ISDS (English). Most answers to the questions are "agree" and "strongly agree".

Please visit: https://www.ilc.cuhk.edu.hk/workshop/ISDS/

The Independent Learning Centre 39438733 ilc-counsel@cuhk.edu.hk

Talk: Introducing an Online Learning and Reflection Platform: The Interview Skills Development System

Presented by
Ms. Sharon Sin Ying WONG, Independent Learning Centre, The Chinese University of Hong Kong

Abstract
There is some discrepancy between what one knows and what one can do. For students having learned how they should present themselves in a job interview, it does not necessarily mean that they can perform well. The acquisition process involves trials and errors. In order to better prepare CUHK students for job interviews and to increase their success rate even for the first few interviews, the Independent Learning Centre (ILC) has developed an online platform namely the Interview Skills Development System (ISDS) for students to put knowledge into practice. Upon coming for a short "mock" interview, students will be able to view their video-recording clip on the platform (login required) and reflect on their own performance. They will then be able to see teacher feedback regarding their content, language, non-verbal communication skills and attire. Given individualized further learning resources, students will also set goals on how to improve their interview performance in the future. The aim of this ISDS platform is to bridge the gap between what students know and what they can do in job interviews, through offering a meaningful practice and reflection opportunity. Before students come for the "mock" interview, they are required to attend at least one of the ILC's English Job Preparation Series workshops. This completes the entire knowledge to practice cycle. In this presentation, we will share some features of the platform, how students could benefit from this independent learning activity and some feedback from the 170 students who came to the "mock" interviews.

View **Poster**
View **Video**

Online Venue
Room A

Areas of Interest
Pedagogical Advancement I

The two-edged sword of gaming: The benefit of gaming in territory education

Mok, Edwin K.M.
Department of Finance, Chinese University of Hong Kong

Start

- Gamification is the use of game elements in non-game contexts (Deterding et al., 2011.)
- 71% studies show positive learning results from the use of gamification (Majuri, 2018.) 12

Wanna know some examples of gamification?

No

Yes

Who wants to be a Millionaire

8

PaGamO

成語偷菜

codeSpark Academy

10

- Responses form 180 students form FOUR classes. 8
- In contrast to their responses in exercise format, 19% of students choose risk taking even the expected value is negative.
- Results helps students to learn how behavioural bias affect investing decision.

Wanna know about the pros or cons of gamification?

Cons

Pros

Cons 10

1. Effects are limited in certain types of questions, like coding and proof.
2. Time-effectiveness is doubtful, the problem is severe in territory education with course duration of only 13 weeks.
3. Resistance from students on the reward system, as it is similar to attendance.

Wanna know about the bright side?

Yes

No

Yes

Pros 6

1. Strengthen students' understanding on subject-knowledge, by putting themselves into other people's shoes.
2. Foster feelings of enthusiasm towards the subject.
3. Keep students' attention in the class, and increase their engagement.

Wanna know about the cons?

No

Adding Game Elements to class[1,3,4,5,7]

1. Story (Fantasy)
2. Choice
3. Rewards 10
4. Rapid Feedback
5. Interaction

Wanna know more about the meanings of game elements?

No

Yes

8

12

1. Story: Narrative can helps students to process information and provide a meaning to their studies.
2. Choice: Students feel something is at risk when they have to make a decision. It can increase their attention on the class and engagement with the subject.
3. Rewards: Variable rewards are scheduled into the learning experience to provide extrinsic motivation for students to solve the problem at hand.
4. Rapid Feedback: When the time between action and feedback is short, students are more excited to learn and participate.
5. Interaction: Interaction among students leads to greater learning satisfaction.

6

6 **Example in the class**

The expected value (EV) is calculated by multiplying each of the possible outcomes by the likelihood each outcome will occur and then summing all of those values.

Invest: $2 Success: +$3 Fail: $0

$$EV = 0.5(3) + 0.5(0) = 1.5$$

98%+ students know that they should not invest, as EV is less than their investment.

8

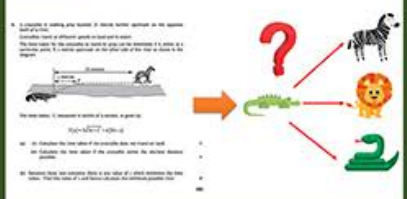
Application 12

Examples

What is the greatest dynasty in the past? 6

⇒Paraphrase to:

⇒Which dynasty in the past would you most like to live in, and why?



If you are interested in gamification in learning, please contact me at:

- edwinmok@cuhk.edu.hk
- 9839-2947 (WhatsApp) 100

Yes

TAKEAWAYS

1. Get started with two to three activities. 20
2. Make the scenario simple.
3. Give a story: Students respond favourably to questions related to the real world.
4. Foster interaction with students and among students.

Wanna know my contact info?

No

Thank you 8

Don't forget to find out your performance based on the STARS you get!

Excellent: 100+ Very Good: 76 – 100 Good: 51 – 75 Fair: 26 – 50 Poor: 0 – 25

Finish

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Talk: The Two-edged Sword of Gaming: The Benefit of Gaming in Territory Education

Presented by
Dr. Ka Ming MOK, Department of Finance, The Chinese University of Hong Kong

Abstract
Technology advancement makes gaming more addictive and easily to be played everywhere. It is unavoidable that today's teacher is much more difficult to get student attention. Looking on the bright side, researchers suggest that incorporating gaming elements in teaching can stimulate interests of students and inspire them to be more engaged in learning. However, gamification are far less employed in territory education than in primary and secondary education. The popularity of Candy Crush and Pokemon Go among adults and elderly has shown that territory education should not be an exception for gamification. The study aims at providing the experience of gamification and discussing the key takeaways for teachers and researchers.

In Finance, it is important for students to understand the difficulties in making decisions under uncertainty and realize how behavioral bias affect their decisions, but it is easier said than done. To simulate the situation of making decision under uncertainty, in-class interactive activities are employed in Finance classes. An excel file and a google form are used to facilitate the in-class activities.

Based on the experience from nine classes, this study summarizes three key takeaways that are useful for teachers from all disciplines: i) Gamification significantly increases students' sense of accomplishment, raising their interests in learning. ii) Gamification helps students to think from the participant, rather than form the view of an observer. iii) Setting with interaction element among students improves the learning experience and facilitates knowledge exchange.

View **Poster**
View **Video**

Online Venue
Room A

Areas of Interest
Pedagogical Advancement I

Talk: Theory and Practice as One: An Innovative Scheme of Teaching Chinese Art and Material Culture

Presented by
Prof. Peng PENG, Programme in Cultural Management, Faculty of Arts, The Chinese University of Hong Kong

Abstract
The proposed pedagogy aims to provide students pursuing the arts with solid knowledge, fresh insight, critical thinking, artistic vision, and historical perspective. This pedagogy stresses on the synergy of comprehensive theoretical learning, solid studio practice, and project-based object study. For example, when teaching ancient Chinese bronzes, I will first make Chinese metallurgy more understandable through interesting case studies from the rest of the world. This would provide students with global vision, comparative perspective, and stronger curiosity of finding out what is unique about Chinese metalworking. To deepen students' understanding in artworks, I will arrange some guided tours to art studios in Hong Kong. For instance, students will visit an art foundry nearby to understand how to conduct lost-wax casting. Specifically, they will see how the artists and founders build up the wax model, apply the investment mold, prepare the molten metal, pour the metal, take the casting from the mold, and finally embellish the product. After the studio visit, hands-on sessions will be organized in the Art Museum of CUHK, or another major museum in Hong Kong. Based on the hands-on experience, each student will conduct an independent study to compare two or more target artifacts in the museum warehouse. A short research paper is requested from each of them to turn his or her observation into scholarly arguments. Through the object study, students are expected to observe artworks like perceptive detectives, understand them like insightful artists, and think about them like serious historians.

Online Venue
Room A

Areas of Interest
Pedagogical Advancement I

Talk: Designing a Mobile App for Capstone Projects

Presented by
Dr. Valerie YAP, English Language Centre, The Hong Kong Polytechnic University
Dr. Julia CHEN, Educational Development Centre (EDC), The Hong Kong Polytechnic University

Abstract
The capstone or final year project is an important piece of writing for final undergraduate students. However many UGC-funded institutions do not have the curriculum space to offer specific English language training specifically for capstone projects. To address this, our project, involving five universities, has developed an in-house mobile app that offers discipline-specific support to final year undergraduate students in the English they need to deliver their capstone or final year project. Besides providing English language learning tips, students can use the app's two other main features to manage their project and communicate with their supervisors. This presentation reports on the latest updates on the mobile app and looks into students' feedback and experience in using it. The presentation will conclude with the project's challenges and future work.

Online Venue
Room A

Areas of Interest
Pedagogical Advancement II

Teaching and Learning Innovation EXPO 2019/20

Faculty of Medicine
The Chinese University of Hong Kong

香港中文大學
The Chinese University of Hong Kong

E -management of Critically Sick General Surgical Patients

Prof. Kaori Futaba; Department of Surgery, Faculty of Medicine, The Chinese University of Hong Kong

Background

Management of critically sick, general surgical patients can be challenging. Doctors must assess the patient in a timely manner to decide on the most likely diagnosis to offer them prompt treatment to save lives.

Initial choice of treatment can be crucial in the management of critically ill patients.

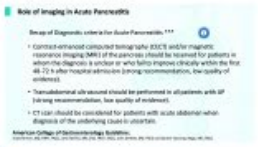
There are a wide range of investigations available to help doctors reach the correct diagnosis, however there are pros and cons and risks with each test offered and it can be difficult to decide on which investigation is the best one for your patient at that time.

Method

Exposure to the variety of emergency surgical conditions during General Surgical attachment of medical student is unpredictable and may be limited depending on the case mix availability.

The project objective was to produce an interactive learning platform to allow students to manage a critically sick e-patient to enhance student's deeper learning and promote higher order learning.

Three important classical emergency surgical scenarios: acutely painful leg, acute abdominal pain and gastrointestinal bleed were chosen. The interactive micromodules have been developed and accessed by final year medical students via CU Blackboard, to allow students to access this 24/7.



Summary

Relevant clinical images and video are imbedded into the micro-modules to improve medical students' understanding of different special investigations available.

Formative assessment on both case diagnosis and management plan are used in each case to test student's decision making.

Informative feedback provided for each choices of decision are welcomed by the students.

Discussion

Decision making is an important skill to master.

E-management of critical sick general surgical patient allows students to learn important elements of managing critically sick surgical patients but also allows them to appreciate the consequence of their decision without harming real patients.

Imagining: such as Magnetic resonance cholangiopancreatography

Procedure videos: such as Endoscopic retrograde cholangiopancreatography

Short narrated operative videos

MMCDG funded project

Members of the Project Team

- Professor Tony WC Mak (Division of Colorectal Surgery)
- Professor Simon SM Ng (Division of Colorectal Surgery)
- Professor Enders KW Ng (Division of Upper GI and Metabolic Surgery)
- Professor Paul BS Lai (Division of Hepatobiliary and Pancreatic Surgery)
- Professor James YW Lau (Chairman & Yao Ling Sun Professor of Surgery, Division of Vascular Surgery)
- Dr. Kitty Au-Yeung (Higher Surgical Trainee)
- Dr Kristy PT Fung (Basic Surgical Trainee)
- Dr Ruby Lau (Higher Surgical Trainee)
- Dr Sunny Cheung (Associate Consultant, Division of Hepatobiliary & Pancreatic Surgery)
- Dr Patricia Yih (Associate Consultant, Division of Vascular surgery)

Supported Team

- ITSC, CUHK
- Office of Medical Education, Faculty of Medicine

Talk: E-management of Critically Sick General Surgical Patients

Presented by
Prof. Kaori FUTABA, Department of Surgery, The Chinese University of Hong Kong

Abstract
Management of critically sick, general surgical patients can be challenging. Doctors must assess the patient in a timely manner to decide on the most likely diagnosis to offer them prompt treatment to save lives. Initial choice of treatment can be crucial in the management of critically ill patients. There are a wide range of investigations available to help doctors reach the correct diagnosis, however there are pros and cons and risks with each test offered and it can be difficult to decide on which investigation is the best one for your patient at that time. There is no one correct way to manage a sick general surgical patient. However, consequence of making a wrong choice may cost patient's life. Decision making is an important skill to master. Exposure to the variety of emergency surgical conditions during their General Surgical attachment is unpredictable and may be limited depending on the case mix availability.

The project objective was to produce an interactive learning platform to allow students to manage a critically sick e-patient to enhance student's deeper learning and promote higher order learning. We have included relevant clinical images and video to improve their understanding of different special investigations available. It allows students to learn important elements of managing critically sick surgical patients but also allows them to appreciate the consequence of their decision without harming real patients. We chose three important classical emergency surgical scenarios: acutely painful leg, acute abdominal pain and gastrointestinal bleed.

View **Poster**
View **Video**

Online Venue
Room A

Areas of Interest
Pedagogical Advancement II

Talk: Enhancement of a Commercial Computer Game for Game-Based Learning in General Education

Presented by
Dr. Kai Ming KIANG, Office of University General Education, The Chinese University of Hong Kong
Mr. Ching Tin CHU, Department of Philosophy, The Chinese University of Hong Kong

Abstract
We have enhanced a commercial computer game, Civilization 5, for game-based learning in our teaching of the general education foundation course as an outside class activity. We believe that playing game is an entertaining, engaging and effective way of learning about any complex and open-ended issues. We also think it is better for educators to focus on the design of the learning materials by simply adopting and enhancing an existing commercially available game.

The game itself is a popular award-winning commercial game that allows player to develop a civilization in a simulated world. The civilization will have to compete with other AI players to build cities, get hold of resources, develop science, religion, and commerce, and build up an army for defending or attacking. It allows the players to innovate their own strategy to win and enjoy the game.

We enhanced the game by making a scenario that mimic real historical setting and edited the technology tree that can be more closely related to the content that we teach. Playing this 'mod' allows students to reflect upon, among many interesting issues, a core question in our course, "why ancient Chinese science cannot develop into modern science, with its seemingly leading position initially?" The game offers an external assessment into this question, and act as a compliment to the course readings which explore mainly into the internal causes of scientific development.

We would like to demonstrate the game itself, how we enhanced the game, and how we use it for the teaching in our general education foundation course.

Online Venue
Room A

Areas of Interest
Pedagogical Advancement II

Talk: Feminist Reflection on Artwork and Exhibition for Theological Pedagogy

Presented by
Prof. Christina Wai-Yin WONG, Divinity School of Chung Chi College, Department of Cultural and Religious Studies, The Ch
Mr. Leo F.H. MA, Upper-campus Libraries, The Chinese University of Hong Kong

Abstract
From 2017 to 2019, I, with my students studying Feminist Theology, and Gender and Ministry, did art exhibition yearly at the New Asia College, Ch'ien Mu Library of the University to share our theological reflection on gender, our life stories, our relationships with God, and the imagined and constructed other. It is a good pedagogical attempt to inspire students to connect academia with their everyday lives' concern. After three years of practice, I want to address a feminist reflection on artwork for theological pedagogy. Particularly, it can nurture a deeper reflective wisdom for everyday life struggles of theological students. Besides, the exhibition of students' artwork is a good means for knowledge transfer to the students and staff from other departments in the university. This talk presentation will be conducted with Leo F.H. Ma, Head of Upper-campus Libraries, to share his experience to support teaching and learning activities using library's facilities and space.

Online Venue
Room A

Areas of Interest
Pedagogical Advancement II

Talk: Improving Students' Intercultural Competence via Online Learning Modules: Interacting Across Cultures – Home and Abroad (IACHA)

Presented by
Dr. Yvonne LOONG, Independent Learning Centre, The Chinese University of Hong Kong

Abstract
In response to an increasing number of CUHK students going for overseas exchange programmes and an increasing number of non-local students joining CUHK, a series of online learning modules titled "Interacting Across Cultures: Home and Abroad (IACHA)" has been developed to improve both outgoing and incoming students' intercultural sensitivity so that they can interact with people from different cultural backgrounds more effectively. Building on the "Interacting Across Cultures (IAC)" series by the Independent Learning Centre (ILC) which mainly focusses on preparing outgoing students to maximise their learning outcomes overseas before departure, the current expanded Home and Abroad series has included additional modules to support incoming non-local students' transition to the academic context at CUHK, prepare them for interactions in multi-national workplaces during internships, and help them better understand the Hong Kong community in general. The IACHA series concludes with a video with voices from both students and staff on the best intercultural practices on campus and beyond. This presentation will report how the IAC series has supported outgoing students so far, and how we envision the IACHA series can be used support incoming non-local students.

Note: "Interacting Across Cultures: Home and Abroad (IACHA)" is a TDLEG project jointly developed by the Independent Learning Centre (ILC), the Office of Student Affairs (OSA), and the Office of Academic Links (OAL).

Online Venue
Room A

Areas of Interest
Pedagogical Advancement II

PLATFORM AND/OR SERVICES

KEEP

How to USE KEEP to Improve Teaching and Learning

From course hosting to data visualization, KEEP provides a complete set of tools and resources to enable you to flip, blend, and digitize your course materials.

Presenter *Bo Zhu* (Project Manager, KEEP)

Step 1

Single sign-on

Integrated login system with HK universities to allow easy login for teachers and students with their institutions' accounts.

Step 2

KEEPCourse

Browse existing online courses and see the world's best examples of blended and online learning experiences.

OPENedX / moodle

Choose a platform to host your course and use the latest question types, discussions, and video players to create interactive experiences for your learners.

Step 3

Dashboard

Review and track your learners' engagement with high quality visualizations to help you tailor your teaching and improve your content.

Step 4

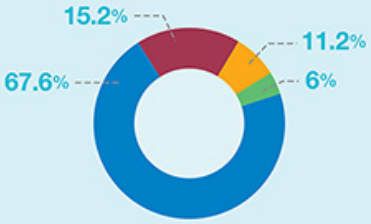
KEEPoll

Check in-class learners' comprehension real-time with short questions using their mobile phones.

Step 5

What types of blended learning can I find on KEEP?

We support all different forms of blended learning and encourage educators to experiment with new pedagogies.



keep.edu.hk

Acknowledgement

KEEP (Knowledge & Education Exchange Platform) is funded by the University Grants Committee under the Funding Scheme for Teaching and Learning Related Proposals (2012-15 Triennium and 2016-19 Triennium) and matching funds from participating universities.

Collaborators

Partners

coursera Future Learn PaGamO edore OPENedX

Talk: How to Use KEEP to Improve Teaching and Learning

Presented by
Mr. Bo ZHU, Knowledge & Education Exchange Platform (KEEP), The Chinese University of Hong Kong

Abstract
Online education has enabled teachers to apply various pedagogies more efficiently than in a traditional setting. With the use of KEEP (Knowledge & Education Exchange Platform), instructors are practicing different innovative teaching methods, such as blended learning, flipped classroom, peer instruction, badges and gamification. Each of the practices has its own contribution to teaching, including enhancing learning motivation and deepening understanding.

KEEP is a UGC-funded project for empowering educators and learners with impactful resources and innovative technologies for lifelong education. Since its launch in 2015, teachers from local universities and outside have hosted hundreds of online courses on KEEP, serving more than 87,000 students, with a wide variety in their content and teaching mode.

Teachers and eLearning support units are welcomed to our parallel session and poster presentation to exchange observations and experience in adopting innovative teaching practices. We also welcome inquiries at info@keep.edu.hk.

View **Poster**
View **Video**

Online Venue
Room B

Areas of Interest
Platform and/or Services

MAKERSPACE IN THE CUHK LIBRARY

A SPACE FOR CREATIVE LEARNING, INNOVATION AND COLLABORATION

2013

Since it opened the Learning Garden has supported innovative and collaborative learning providing 3D printing and scanning equipment.

3D Printing

2018

The Library was fortunate to receive funding from the University to develop enhanced MakerSpace facilities in the Learning Garden to support innovation, entrepreneurship and creative learning.

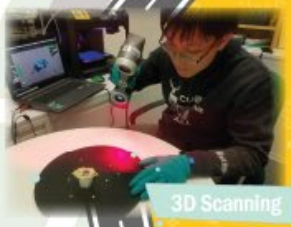
Creative Media studio for video production

UV Printing

2019

Working with a group of academic advisors on the design and services the MakerSpace opened in September.

- Open to all CUHK students and staff
- An entry point to explore the maker's culture
- Cross-disciplinary collaboration
- Self-service model



3D Scanning

VR Zone

SERVICES INCLUDE

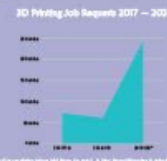
D - 3D Printing, 3D Scanning, Laser Cutting and UV Printing

R - Virtual Reality

I - Internet of Things (IoT) Tools

V - Video Production

E - Embroidery Machine



Embroidery Machine

2020 2021

Workshop on Internet & Things (IOT)

FUTURE COLLABORATION

Interested parties for collaboration, please contact

Lily Ko
Tel: 3943 9737
Email: lilyko@lib.cuhk.edu.hk
Learning Garden and MakerSpace
Tel: 3943 9730
Email: liblc@lib.cuhk.edu.hk

For details:
please visit: https://libguides.lib.cuhk.edu.hk/makerspace

Laser Cutter

Project Team: Lily KO, Winnie TANG, Kitman MAN

Talk: MakerSpace in the CUHK Library: A New Space for Creative Learning

Presented by
Ms. Lily KO, The Chinese University of Hong Kong Library, The Chinese University of Hong Kong

Abstract
The CUHK Library is committed to supporting the University-wide theme Innovation & Design. The Learning Garden, which provides collaborative workspaces, has been updated and expanded with a new MakerSpace with the following services starting from September 2019:
o Easy-to-Use creative media production studio
o Editing Booths with High Performance Workstations
o AR & VR equipment and software
o Laser cutting & UV Printing
o 3D printing & scanning services
o Internet of Things (IoT) Tools
o Embroidery Machine
o Software for Image Editing, 3D Modeling, 3D Rendering, 3D Sculpting as well as AR/VR creation
o Workshops on various digital and maker skills

This MakerSpace is open to all members of the CUHK community and serves as an entry point for staff and students to explore the maker's culture. It aims at promoting cross-disciplinary collaboration among students to acquire the digital and maker literacy as life-long skills. Through various types of workshops, hands-on learning experience and self-services model, students are encouraged to be exposed in the maker's culture via trial and error.

This presentation will share the opportunities and challenges facing by the Library in promoting the digital and maker literacy to students during the implementation of the MakerSpace project. It also invites interested academic and teaching staff to collaborate with the CUHK Library to develop digital content or projects for teaching and research use via the MakerSpace equipment and resources.

View **Poster**
View **Video**

Online Venue
Room B

Areas of Interest
Platform and/or Services

Talk: Online Reading List as a Teaching & Learning Tool: The Experience of the Divinity School of CUHK

Presented by
Dr. Leo K.H. LI, Divinity School of Chung Chi College, The Chinese University of Hong Kong
Mr. Leo F.H. MA, The Chinese University of Hong Kong

Abstract
In the past couple of years, CUHK Library has been in search of a course resource tool for creating, fulfilling, and viewing course reading lists for faculty, librarians, and students. Among the commercial products available in the market, Leganto developed by Ex Libris is one of the most popular course reading list platforms adopted by academic and research libraries not only in Hong Kong but also around the world. Aiming at fully revealing the potential of Leganto as a course resource tool, CUHK Library kicked off a pilot study of Legnato in the second semester of the academic year 2018-19. The goals of the pilot were to create opportunities for faculty members and librarians to experiment with Leganto and to investigate its challenges to support teaching and learning activities. The Divinity School of CUHK was invited to participate in the pilot and has successfully tested out the Leganto platform. CUHK Library subsequently launched the Leganto service as a reading list platform to the university community in September 2019. The purpose of this paper is to demonstrate the experience of implementing the online reading list by the Divinity School. The presenters will discuss the design and workflow of embedding the online reading list service into the teaching activities, some issues encountered around linking to electronic resources and embedding the reading list platform into Blackboard.

Online Venue
Room B

Areas of Interest
Platform and/or Services

Real-time PDF Commenting & Audience Interacting Online System

Introduction

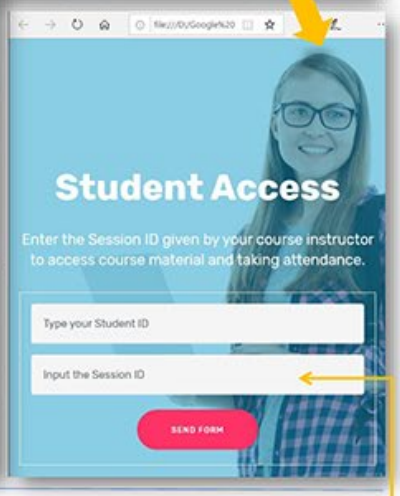
In common practice, instructors always tend to use generic computer-aided tools such as Slideshow or Word Processing software to facilitate their teaching in class. However, when they want to highlight few points, sketch some drawings during teaching or even type few texts in real time, it seems that those tools cannot provide a convenient way for them to do so. Instead, many instructors migrate to draw on the whiteboard or even use visualizer to write on hard copy of notes. Thus, I would like to propose an online system that can allow real-time typing, simple drawing and highlight on PDF file online.

Teacher Mode

Instructors need to input course code & title as well as self-created password to create a new session. Then, session ID will be shown and you can feel free to pass to students to join.

Student Mode

Students need to input their student ID and the session ID given by their course instructors to access handouts, announcement and chatroom.

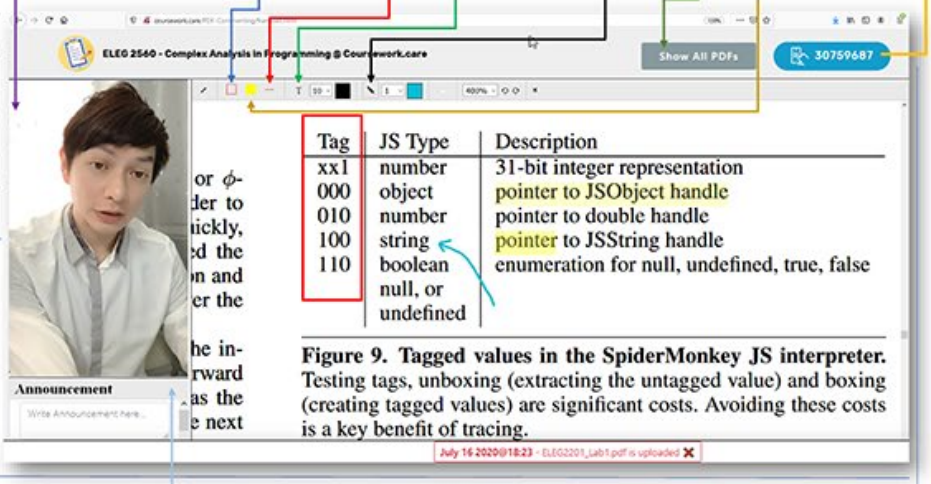


Portrait Face Capture

Besides, it is now a trend to have both face-to-face teaching together with online LIVE teaching. However, it is a common practice that those real-time teaching platform always show presenter's face through a very small window when screen sharing is made. It cannot deliver any cordial feeling to our students. To better handle this issue, a scalable portrait view via webcam is added.

Browse/Change Handout

Instructors can upload their PDF files by clicking "Show All PDFs" button in order to share the handout with students and start teaching using various annontation tools, such as drawing rectangles and lines, typing, freehand drawing, highlighter, etc.



Tag	JS Type	Description
xx1	number	31-bit integer representation
000	object	pointer to JSObject handle
010	number	pointer to double handle
100	string	pointer to JSString handle
110	boolean	enumeration for null, undefined, true, false
	null, or undefined	

Figure 9. Tagged values in the SpiderMonkey JS interpreter. Testing tags, unboxing (extracting the untagged value) and boxing (creating tagged values) are significant costs. Avoiding these costs is a key benefit of tracing.

Announcement

The announcement area allows intructors to input real time notices to alert students.

Demo Site → https://live.frankieyip.com

By K. F. Yip, Frankie - Lecturer of Electronic Engineering, CUHK

Talk: Real-time PDF Commenting and Audience Interacting Online System

Presented by
Mr. Kim Fung YIP, Department of Electronic Engineering, The Chinese University of Hong Kong

Abstract
In common practice, instructors always tend to use generic computer-aided tools such as Slideshow or Word Processing software to facilitate their teaching in class. However, when they want to highlight few points, sketch some drawings during teaching or even type few texts in real time, it seems that those tools cannot provide a convenient way for them to do so. Instead, many instructors migrate to draw on the whiteboard or even use visualizer to write on hard copy of notes. Thus, I would like to propose an online system that can allow real-time typing, simple drawing and highlight on PDF file online.

Besides, it is now a trend to have both face-to-face teaching together with online LIVE teaching. However, it is a common practice that those real-time teaching platform always show presenter's face through very small window when screen sharing is made. It cannot deliver any cordial feeling to our students. To better handle this issue, a scalable portrait view via webcam will be added to either left or right side of the system so that audience can see both our face and gestures during teaching.

On top of this, students always hesitate to ask questions during the class but they are pleased to ask through text messages. Therefore, I would like to incorporate a announcement and chatroom interface shown side-by-side with PDF commenting area to enable audience silently reflecting their doubts.

View **Poster**
View **Video**

Online Venue
Room B

Areas of Interest
Platform and/or Services

STUDENTS' CAPABILITIES

Talk: Engaging Students as Partners in Peer Assisted Study Session (PASS)

Presented by
Dr. Vivian Jun WU , Office of University General Education, The Chinese University of Hong Kong
Dr. Kenneth Ming LI, Office of University General Education, The Chinese University of Hong Kong
Dr. Wai Man SZETO, Office of University General Education, The Chinese University of Hong Kong
Dr. Amber Lo Ming YIP, Office of University General Education, The Chinese University of Hong Kong
Dr. Andy Chi Chung YU, Office of University General Education, The Chinese University of Hong Kong
Dr. Andy Ka Leung NG, Office of University General Education, The Chinese University of Hong Kong
Mr. Tommy Chi Hin YEUNG , Office of University General Education, The Chinese University of Hong Kong
Mr. Jacky Tsz Kin YIU, Office of University General Education, The Chinese University of Hong Kong
Prof. Mei Yee LEUNG , Office of University General Education, The Chinese University of Hong Kong

Abstract
Peer Assisted Study Session (PASS), a widely-adopted peer learning model, is an effective approach of engaging students as partners in teaching and learning. Typically run weekly, PASS are voluntary study sessions led by "PASS Leaders", students who excelled at the same course in the past. Under the guidance of PASS Leaders, students are working in close partnership with each other in these one-hour study sessions to consolidate understanding, reinforce key concepts and develop effective study strategies. Apart from the partnership among student participants, this poster presentation will also describe how PASS nurtures partnership between different parties, such as student participants, PASS Leaders and course teachers, as well as how these parties can be benefited by this network of partnership. The General Education Foundation Programme has adopted PASS since 2010 and there is concrete evidence indicating the considerable benefits of PASS. Evidence shows that engaging students as partners in PASS effectively enhances students' subject knowledge, improves independent learning skills, increases their confidence and motivation, and boosts academic performance. PASS Leaders and course teachers are also benefited from PASS. Having taken the role of facilitators, PASS Leaders reflected that their communication skills, leadership skills and intellectual ability were strengthened. Also, feedback from PASS Leaders was a valuable tool to inform teachers of their teaching. This extensive network of partnership formed in PASS helps to build a community which further stimulates the development of teaching and learning.

Online Venue
Room C

Areas of Interest
Students' Capabilities I

Talk: Promoting a Culture of Innovation and Social Enterprisingness Among CUHK Students

Presented by
Prof. Cecilia CHUN, Centre for Learning Enhancement And Research, The Chinese University of Hong Kong
Ms. Betty HUI, Centre for Learning Enhancement And Research, The Chinese University of Hong Kong

Abstract
As our world and communities are approaching to a diversified environment, there are "seven survival skills for careers, college, and citizenship" identified by Tony Wagner from Harvard University to deal with the current complex and complicated problems. These competences are critical thinking and problem solving; collaboration across networks and leading by influence; agility and adaptability; initiative and entrepreneurialism; effective oral and written communication; accessing and analyzing information and curiosity and imagination. Design thinking is one of the tools in teaching and learning to enhance these competences. Its structured process leads us from ideas to tangible results through inquiries, divergent and convergent thinking as well as reflection. CLEAR has been collaborating with the Education for GOOD (EFG) to introduce the skills and tools of Design Thinking in CUHK communities during 2018-2019. 'Innovation and Design for GOOD Challenge' and 'Student Expo 2019' encouraged our students to put forward their ideas and got recognition of their accomplishments. In the talk, we would share how the individual coaching sessions helped the participants stretch their lens and reframe their challenges. We would discuss the techniques of 'learning from the extremes' and 'analogous cases' which bring them to the next level of seeing with new eyes.

Online Venue
Room C

Areas of Interest
Students' Capabilities I

Talk: Success Factors of Student Learning

Presented by
Ms. Sonia CHEUNG, Centre for Learning Enhancement And Research, The Chinese University of Hong Kong

Abstract
This talk presents the findings of a UGC funded collaborative project which aims to identify factors that impact on student success in the 4-year curriculum (4YC) and to use the findings to formulate and provide better support to students. A website with online resources https://learninganalytics.edu.hk/ is under development to support programme review and to conduct standardised analysis such as student entry characteristics, performance of individual students, and assessment results across the programme. The use of data-analysis techniques and student academic records will allow us to review the outcomes of a decision or action, and to target resources to enhance student learning. While student success may be defined by successful completion of a university degree, the findings of a survey conducted with 792 student, alumni and teacher respondents has suggested that students and teachers sometimes hold different opinions. In this talk, we will introduce a data-driven approach to making decisions about curriculum design and student support.

Online Venue
Room C

Areas of Interest
Students' Capabilities I

Talk: Understanding in Practice: From Meditation to Mindfulness

Presented by
Dr. Chu Lee CHIU, Office of University General Education, The Chinese University of Hong Kong
Ms. Wing Sum CHAN, Year-5 Student of Chinese Medicine, School of Chinese Medicine, The Chinese University of Hong Kong
Ms. Oi Kuen WONG, Year-2 Student of Gerontology, The Nethersole School of Nursing, The Chinese University of Hong Kong
Mr. Lai Hong SIU, Year-2 Student of Early Childhood Education, Faculty of Education, The Chinese University of Hong Kong

Abstract
The fight against stress, fear, anger, or hopelessness; the quest for inner peace and connectedness with oneself and the others, are among the major projects for students pursuing a good life. While academic studies (through general-education courses, for instance) of philosophical ideas and religious perspectives may help, direct engagement in spiritual practices grounded in a religio-philosophical tradition is likely to consolidate understanding or even bring life-changing transformation. The proposed presentation introduces-from students' as well as the teacher's eyes-a new experiential-learning course offered in June 2019 that includes a seven-day retreat in France, at a centre where Buddhist mindfulness is taught and practiced with a modern twist. Several students will share their observations and insights gained from sustained meditation practices before and during the retreat-cultivating mindfulness through sitting, walking, eating, cooking, working, playing drums, and forest bathing, and nurturing compassion and wisdom through rituals, talks, chats, and exercise in nonviolent communication. The teacher will share lessons learnt about course design and assessment that cater to the experiential nature of the course while not compromising the intellectual rigor. While student experience will be the focus of the poster presentation, reflection on the teaching design will be the focus of the talk. A five-minute video will be shown during the poster presentation session with photos and video clips of students engaged in activities or relating their experience in interviews.

Online Venue
Room C

Areas of Interest
Students' Capabilities I

Talk: "Gongyeh 講嘢": An App to Improve Students' Presentation Skills and Enhance Engagement in Classmates' Presentations

Presented by
Dr. Thomas Ming Hung LEE, Department of Biomedical Engineering, The Hong Kong Polytechnic University
Dr. Hin Chung LAU, , The Hong Kong Polytechnic University
Anson Leung Yu KWAN, , The Hong Kong Polytechnic University
Justin Ka Chun LEUNG, , The Hong Kong Polytechnic University
Jayson Ying Wai LI, The Hong Kong Polytechnic University

Abstract
Oral presentation is one of the most widely used methods in assessing student learning outcomes of content comprehension and communication skills. Nevertheless, both students and teachers face challenges in optimizing the benefits of such learning activity. From students' perspective, they only receive a letter grade but no feedback from the audience (teacher and classmates). From teachers' perspective, students keep making the same mistakes throughout their course of study. Besides, students' engagement in classmates' presentations is problematic. Our team developed an app "Gongyeh 講嘢", also a web platform, to address these issues through students' presentation video recording and real-time online audience feedback. The main features of the Gongyeh app include: (1) a presenter starts the video recording with his/her mobile device and thus the audience can start giving real-time feedback; (2) three categories of feedback (open comments, questions preset by presenter, and assessment rubrics preset by teacher); (3) only the presenter and teacher have the recorded video and feedback; and (4) the feedback given by the audience is anonymous to the presenter (just known to the teacher) and time-synchronized with the video. So far, 42 teachers (33 PolyU, 1 HKCC, 4 HKU, 3 EdUHK, and 1 from a high school in Myanmar) and 1,510 students used the app. The project team received very positive feedback, from both students and teachers, on the effectiveness of the app in helping students improve their presentation skills and enhancing students' engagement in classmates' presentations.

Online Venue
Room C

Areas of Interest
Students' Capabilities II

Talk: DAGMAR Approach to Enhance Deeper Learning - The MEDU2600 Pharmacogenomics Teaching Experience

Presented by
Prof. Vivian Wai Yan LUI, School of Biomedical Sciences, The Chinese University of Hong Kong

Abstract
Large class teaching can be challenging, especially on highly complicated topics to be effectively delivered within 45-90 mins. Here, we adopted a well-known business approach called DAGMAR ["Defining advertising goals to measure advertising results" by Russell Colley] for teaching ~200 medical students on a highly complicated professional topic, "Pharmacogenomics" (MEDU2600) at CUHK. The core essence of DAGMAR is a highly connected communication axis of Awareness-Comprehension-Conviction-Action (ACCA). Often time, large classroom teachings for medical students focus on comprehension of knowledge mainly. Yet, with DAGMAR, communication activities (i.e. advertising) resulting in "buying actions" mean ultimate success. Similarly, designed teaching activities in a way that students "could and would action" is our ultimate teaching/communication goal. In a single lecture, we purposely adopted the ACCA elements of DAGMAR. We first sparked the "awareness" of the entire class by bringing them outside the classroom with a short documentary demonstrating the life-or-dead impacts of pharmacogenomics. This was immediately followed by "comprehension" (i.e. detailed scientific and medical information). "Conviction" was then built by showcasing world examples of pharmacogenomics, and related databases/resources (to convict them to act with solid knowledge). Finally, students' "action" was drawn with one open question that inspired thinking and critical challenge of their learning to be applied to local settings. The approach was found appealing to students, not only reflected in satisfactory CTE comments, but also with students' active discussions with family members. Subsequently, medical students became self-motivated to engage in deeper learning by initiating related medical virtual research lab talks outside classrooms.

Online Venue
Room C

Areas of Interest
Students' Capabilities II

Talk: Law and History for Continuing Legal Education?

Presented by
Prof. Steven GALLAGHER, Faculty of Law, The Chinese University of Hong Kong

Abstract
In October 2014 the Faculty of Law at The Chinese University of Hong Kong held the first of a series of seminars covering topics around the use of Chinese customary law in present Hong Kong. Much to the surprise of even the organizers over the course of the next four years the seminar series developed into the most successful continuing professional development scheme in the history of Hong Kong legal education. This paper discusses how the seminar series originated, how it developed, why it has been so successful, plans its future development as well as general conclusions which can be drawn from this experience.

Online Venue
Room C

Areas of Interest
Students' Capabilities II

JCMOTION
APPRENTICESHIP
HUB
TRAINING
"ON-JOB TRAINING FOR CREATIVE COMMUNICATORS"
The idea of JcMotion is to provide apprenticeship-based learning opportunities for our undergraduate students. It is a model in which current UG students work with professionals in various projects and assignments so as to acquire hands-on experience in the process and to learn from one another as well as their mentors. This learning and training module is gaining maturity. We have trained 385 apprentices as of now, completing nearly one hundred projects since we established in 2013.
PERSON-IN-CHARGE: PROF. ERIC POON
新聞 School of Journalism and Communication 新聞與傳播學院
CUHK jcMotion

Talk: On-job Training for Creative Communicators

Presented by
Prof. Eric Tat Pui POON , School of Journalism and Communication, The Chinese University of Hong Kong
Ms. Vivian Sze Man LI, School of Journalism and Communication, The Chinese University of Hong Kong
Mr. Ming Him LUI, School of Journalism and Communication, The Chinese University of Hong Kong

Abstract
jcMotion provides Education through practical Experience and Exposure.
This is a unique platform under the School of Journalism and Communication, CUHK.

The idea is to provide systematic training in workshop format for our newly admitted students. By matching the expertise of our School's professors & lecturers, our alumni network in the media and communication field, as well as our talented students, we provide creative solutions and trainings to schools, universities, NGOs, charity organizations and other parties.

From media education to event management, from visual design to video production, we cover a variety of media expertise. All the projects are guided by media professionals and completed by jc-Apprentices.

New members of jcApprentices are recruited on a regulare basis since 2012. jcApprentices learn from one another, their seniors as well as professionals from the industry. Connections are made throughout the process. jcMotion Facebook page and jcApprentice group are created as an effective networking platform for both work and learning opportunities.
jcMotion also spreads knowledge and new ideas. jcMotion Publishing specializes in publishing e-papers, e-books and e-lectures.

Our Missions
• Enriching students' practical skills
• Providing chances for students to work with industrial professionals
• Bridging between school and society
• Nurturing a creative community
• Providing convenient service to school
• As creative partners to CUHK Departments

View **Poster**
View **Video**

Online Venue
Room C

Areas of Interest
Students' Capabilities II

VIRTUAL REALITY (VR)/ AUGMENTED REALITY (AR)

An Innovative Anatomy Learning Tool: The combination of 3D Printing and Web Augmented Reality Technologies

Taylor Lik Hang Tang[1], Andy Wai Ho Kwok [2], Olivia Miu Yung Ngan [3] and Florence Mei Kuen Tang [4]

1. Information Technology Service Centre, The Chinese University of Hong Kong / 2. Department of Computer Sciences and Engineering, Faculty of Engineering, The Chinese University of Hong Kong
3. CUHK Centre of Bioethics, Faculty of Medicine, The Chinese University of Hong Kong / 4. School of Biomedical Sciences, Faculty of Medicine, The Chinese University of Hong Kong

Background and Objective

Anatomy is one of the crucial courses in the pre-clinical curriculum for the Medical Training Programme. Students feel easy to acquire the knowledge in the relationships of structures from the spatial visualization process rather than just through the passive learning process from dialectic lectures, e-learning material or reading. The 3D printing technology allows the replication of the plasnitated specimen without ethnical concern; whereas the Web AR technology enriches the digitized contextual information from the displayed object. Our team has investigated whether the combination of these technologies is an innovated tool for students' visual-spatial learning in Anatomy teaching.

Results and Findings

Our team developed courseware from integration both 3D Printing and Web AR technologies entitled as VeT, providing an excellent sight stimulation to study human organ, using the urinary system as a pilot module. Through the VeT tool, students can examine the model with rotation or manipulation and use the tablet OS to screen the 3D printed kidney model to gain the pop out digitized context of the internal anatomical structures in details. Students acquire the knowledge from such interactive multi-media material in positive experiential learning. The innovative activity facilities the cognitive memory via active learning effectively.

Take Home Message

The potential and affordance of the 3D Printing and Web AR technologyis being valued and extended to the strategic pedagogy in the future health professions education.

Discussion and Conclusion

From our pilot study, the VeT provides several educational implications:

a. Our team has designed the novel web AR-based experiential learning environment for health professional studying the Anatomy;

b. It bridges the interactive learning gap between the factual knowledge with text content type in the book and the 3D printed model for the flipped classroom learning and

Acknowledgement

The HKSAR UGC grant is funded for the development of the project.

Contact Information

Dr. Florence Tang (florencetang@cuhk.edu.hk)

Talk: An Innovative Anatomy Learning Tool: The combination of 3D Printing and Web Augmented Reality Technologies

Presented by
Dr. Florence Mei Kuen TANG, School of Biomedical Sciences, The Chinese University of Hong Kong
Mr. Taylor Lik Hang TANG, Information Technology Services Centre, The Chinese University of Hong Kong
Mr. Andy Wai Ho Andy KWOK, Department of Computer Science and Engineering, The Chinese University of Hong Kong
Dr. Olivia Miu Yung NGAN, CUHK Centre of Bioethics, The Chinese University of Hong Kong

Abstract
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From our pilot study, the VeT provides several educational implications:
(1) Our team has designed the novel web AR-based experiential learning environment for health professional studying the Anatomy; and
(2) it bridges the interactive learning gap between the factual knowledge with text content type in the book and the 3D printed model for the flipped classroom learning.

The potential and affordance of the Web AR technology is being valued and extended to the strategic pedagogy in the future health professions education.

View **Poster**
View **Video**

Online Venue
Room A

Areas of Interest
Virtual Reality (VR)/ Augmented reality (AR)

Perfect or Imperfect Match?

Application Leap Motion Device in the Development of the Immersive Virtual Reality Simulator

Members

Dr. Florence Tang, *School of Biomedical Sciences*
Mr. Ray MF Lee, *Information Technology Services Center*
Dr. Olivia MY Ngan, *CUHK Center for Bioethics*

Backgrounds

Under the biomedical sciences curriculum, undergraduates should be training various techniques in biomedical research. Moreover, the knowledge of laboratory safety is of importance. The training in safety procedures for the handling of radioactive chemicals causes difficulty as they are hazardous and harmful to health causing the potential problem with high-risks and impacts. The students may be threatened with fatal disaster if the handling procedures are improper during the practical training.

From the application of immersive virtual reality technology (IVR), the concept of "virtual experiential learning" has become hostable for the better enhancement to students who must be well-trained for good laboratory practice and etiquettes.

Objectives and Methodology

- The pilot study was to investigate which types of virtual handling systems is helpful in stimulating students with limited laboratory experience in operation radioactive machine, preventing unpredictable accidental issues, and supporting active and constructive educational sector.
- The project was to build up innovative courseware using HTC VIVE IVR as the simulator for understanding the proper procedure to operate the gamma irradiator.
- Our team has adopted two different controlling systems for the operation, i.e. the HTC controller and the leap motion device for the virtual operation of machine.
- The target group for the pilot study was from the biomedical sciences undergraduates.

Results and Discussion

The leap-motion device system

The players grasped any virtual with they own hands. The leap motion device has been mounted on the headset, the player need to place the forearm higher for tracking the movement of the hands. However, the players are required to move around in the immersive virtual environment and they always forgot the rules for the simulation, the virtual stuff has been got lost once it was out of the detection range. They feel frustrated during the simulation process cannot really enjoy the training indeed.

The HTC controller device system

Students all agreed that the HTC controller was good enough to control the operation process but did not have any sensation of the hands-object interaction; but still, the controllers of the HTC VIVE system are definitely running well for the player to gain the experience.

Take Home Message

"The outcome of the courseware can enhance study motivation to learn and equip their necessities in the future career path. At present, the leap motion device is good in status virtual situation but may not be suitable for the IVR."

This projected is supported by the Micromodule Courseware Development Grant & Division of Education, School of Biomedical Sciences, CUHK.

Talk: Perfect or Imperfect Match: Applications of the Controller and Leap Motion Device in the Development of the Immersive Virtual Reality Simulator

Presented by
Dr. Florence Mei Kuen TANG, School of Biomedical Sciences, The Chinese University of Hong Kong
Dr. Olivia Miu Yung NGAN, CUHK Centre of Bioethics, The Chinese University of Hong Kong
Mr. Ray Mau Fung LEE, Information Technology Services Centre, The Chinese University of Hong Kong
Ms. Ching Yee LEE, Department of Information Engineering, The Chinese University of Hong Kong

Abstract
The concept of "virtual experiential learning" has become hostable for the better enhancement to students who must be well-trained for good laboratory practice and etiquettes.

The project was to build up innovative courseware using HTC VIVE IVR as the simulator for understanding the proper procedure to operate the gamma irradiator. Our team has adopted two different controlling systems for the operation, i.e. the HTC controller and the leap motion device for the virtual operation of machine. The pilot study was to investigate which types of virtual handling systems is helpful in stimulating students with limited laboratory experience in operation radioactive machine, preventing unpredictable accidental issues.

During the pilot study, the focus group of biomedical sciences students played and compared the two controlling system. They all agreed that the HTC controller was good enough to control the operation process but did not have any sensation of the hands-object interaction. Regarding the leap-motion device system, it has been integrated in the IVR courseware for the motion of tracking player's hand. The leap motion device has been mounted on the headset, students need to place the forearms higher for tracking the movement of the hands. Some of the students forgot the rules that keep the hands in the detectable range during the simulation, the virtual stuff will be disappeared. However, they still enjoy the training indeed as they use their hands to gain the learning process.

To conclude, the outcome of the courseware can enhance students' motivation to learn and equip their necessities in the future career path.

View **Poster**
View **Video**

Online Venue
Room A

Areas of Interest
Virtual Reality (VR)/ Augmented reality (AR)

Using VR Technology to facilitate Real Estate Education

Project supported by: CUHK Courseware Development Grant 2018-2019

Dr. Cynthia Hou
School of Hotel and Tourism Management

Abstract

Although widely adopted in industry and business practices, technology-led innovation appears being applied rather slowly in the tertiary real estate education. Using a recent experimental case in a real estate program from CUHK, this study focuses on the design, development and implementation of an innovative teaching model with VR integration. The study reports the student feedbacks towards the teaching innovation and identifies role and benefits of VR technology in real estate education. Findings from the study have implications for future global real estate industry practice and education.

1. Introduction

It is increasingly realised that new technology facilitates innovative thinking and new knowledge is critical to high quality tertiary education. With an experimental case of a real estate course using VR technology, this study aims to explore the following interrelated questions: (1) what are students' perceptions of integrating VR technology in real estate course and curriculum? (2) what are VR technology's role and benefits in real estate education in terms of subject design and delivery to influence critical thinking, effective learning, and connection to actual practices?

2. Methology

- Case study as the main research approach

  Case study is adopted as the main research approach in this study and an experimental real estate course is used as a case to examine the effectiveness of VR technologies and students' perception regarding VR technologies in real estate course learning process. An innovative teaching model id designed to guide the course design and implementation.

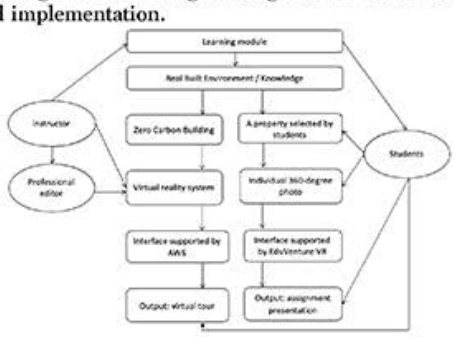


Figure 1. An innovative teaching model integrated with VR technology

- Keller's ARCS model and students' perception evaluation

  The virtual site visit (organised in one lecture) supported by the VR system was designed based on Keller's ARCS (1987a) model. ARCS stands for attention, relevance, confidence and satisfaction. ARCS model guides educators to design teaching activities or materials that can (1) catch and sustain students' attention; (2) relate to students' needs; (3) ensure students that they are able to master the knowledge / skills successfully; (4) assist students to have a sense of achievement and pride (Keller, 1987a). The ARCS model requires a satisfaction survey regarding the students' acceptance of the teaching material. Thus, a satisfaction survey was conducted to assess students' satisfaction level regarding the virtual site visit.

3. Design and Delivery of a VR-enhanced Real Estate Subject from Hong Kong

Figure 2. Demonstration of the model development and student engagement

4. Students' Perception

Table 1. Questionnaire instruments and results for satisfaction survey

Questionnaire instrument	Mean	Std. Deviation	Number of students
1. Sense of achievement post VR material viewing	3.50	.933	24
2. Interest development due to enjoyment of the VR material.	3.29	.690	24
3. Appreciation of the VR material as supplementary in the course	3.96	.955	24
4. Creation of a sense of meaningfulness through the VR experience.	3.54	1.062	24
5. Personal enjoyment due to opportunity to view the VR material.	3.83	.963	24
6. Enjoyment of the VR material for its elaborating design.	3.83	1.007	24

Table. 2 Range of satisfaction level

		Level of satisfaction				Cronbach's Alpha	Mean
		High	Upper medium	Medium	Low		
Satisfaction (6 items)	Scores	4.0-5.0	3.5-3.99	3.0-3.49	<3.00	.769	3.66
	No. of students	9	8	4	3		
	Percentage	37.5%	33.3%	16.7%	12.5%		

Table 1 and 2 indicates students' satisfaction level of the virtual site visit. The Cronbach's Alpha is 0.769, which indicates that the 6 questions have relatively high internal consistency. As Table 1 shows, the highest score is question 3 (M=3.96), and the lowest score is in question 2 (M=3.29). Table 2 shows that 37.5% of students have a high satisfaction level and 33.3% of students' satisfaction level is between 3.5 and 3.99, falling in an upper medium level. 12.5% of students have a low level of satisfaction towards the virtual site visit. It indicates that students were overall satisfied with the virtual site visit.

Talk: Using VR Technology to Facilitate Real Estate Education

Presented by
Dr. Cynthia Huiying HOU, School of Hotel and Tourism Management , The Chinese University of Hong Kong

Abstract
Technology has been emphasised for its critical role in real estate education just after the rise of computer and internet technology in the turn of the 21st century. The use of virtual reality (VR) technology is rapidly expanding to facilitate customer experience and reduce operating cost in the real estate industry. Using an experimental course design and delivery in a real estate course under a business school environment in CUHK, this paper shows the design, development and implementation of an innovative teaching model with the support of VR technology. The results of this study show that VR technology can assist the development and enhancement of student's sense of value as well as improving communicative efficiency of property investigation and analysis of the trade process.

View **Poster**
View **Video**

Online Venue
Room A

Areas of Interest
Virtual Reality (VR)/ Augmented reality (AR)

Virtual Reality ★ Pediatric Nursing

- **Principal supervisor:** Wong CL & Chan WMF
- **Co-supervisor:** Ngan AHY & Ip ICN
- **Department:** The Nethersole School of Nursing, Faculty of Medicine

Objectives

(1) To maximize students' learning by allowing them to learn in their own pace with the use of the developed courseware;

(2) To support flipped classroom implementation in the course;

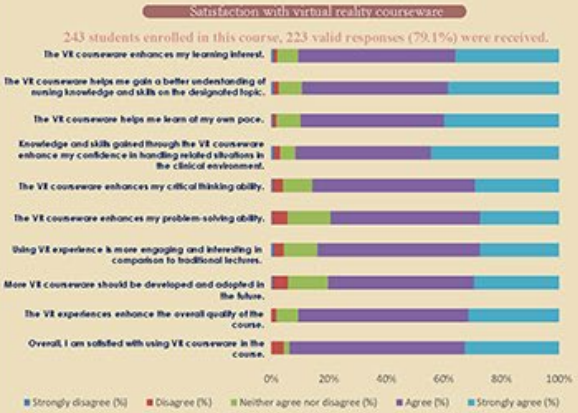
(3) To engage students in an active learning environment.

Topic

The topic was **"Pediatric intravenous infusion".**

Results

The project has been evaluated by
1. student surveys 2. teachers' reflection 3. qualitative interviews.



The 22-item Approaches to Teaching Inventory is a 5-point Likert scale (1=only rarely to 5=almost always) used to explore teachers' approaches to teaching as a measure of teaching quality.

Overall, teachers adopted various approaches in teaching this course with mean score of the items ranged from 3.50 to 5.00.

Teachers' reflection

VR promoted our engagement and increased our interest in learning in the laboratory sessions.

VR allowed us to make mistakes and learn from error.

The VR scenarios were "real" and "similar to what we encountered during clinical practicum".

22 students were recruited for qualitative interviews

Qualitative interviews

Achievements

A courseware consisted of three scenarios that covered the topic has been produced and used in the course.

Scenario 1: Pediatric intravenous infusion assessment

The objective was to equip students with foundational knowledge in conducting assessment before intravenous infusion.

Scenario 2: Problems solving during intravenous infusion

The students were required to identify factors that inhibit the intravenous infusion and to consider appropriate intervention for it.

Scenario 3: Manage complications during intravenous infusion

A pediatric client presented with complications of intravenous infusion was shown.

Students were required to identify these factors and to implement appropriate interventions to manage the complications.

Conclusions

The evaluation indicated that the project has achieved its objectives effectively and completely.

Acknowledgements & Contacts

The VR module is developed by Edvant Company Limited.

Prof. Jojo Wong
Tel: 3943 8166
Email: jojowong@cuhk.edu.hk

This project is supported by Courseware Development Grant Scheme (2018-19)

Talk: Virtual Reality Courseware for Pediatric Nursing

Presented by
Prof. Cho Lee WONG, The Nethersole School of Nursing, The Chinese University of Hong Kong
Professional Consultant Wendy Mei Fung CHAN, The Nethersole School of Nursing , The Chinese University of Hong Kong
Professional Consultant Anna Hau Yi NGAI, The Nethersole School of Nursing , The Chinese University of Hong Kong

Abstract
With the support from the Courseware Development Grant, an interactive virtual reality (VR) courseware that covered an important topic "Pediatric intravenous infusion" in a third-year nursing course was developed and tested. The objectives of this project were to (1) maximize students' learning by allowing them to learn at their own pace with the use of the developed courseware; (2) support flipped classroom implementation in the course; and (3) engage students in an active learning environment.

This topic was chosen because it contained a mix of knowledge and concepts, and was more appropriate to learn by engagement in problem-solving scenarios and interactive activities. On the other hand, the "presence" offered in the VR courseware provided students with an opportunity to actively participate in a simulated hospital environment. These experiences were difficult to present and describe in the lectures.

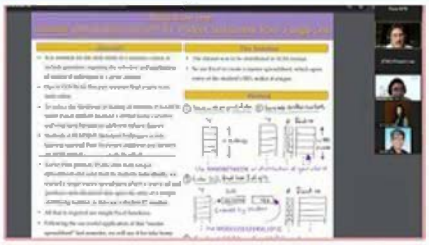
To date, the project has been evaluated through student surveys and qualitative interviews. The surveys indicated that 90.6% of the students agreed that the courseware helped them to gain a better understanding of nursing knowledge and skills on the topic. Most of them (80.1%) agreed that the courseware helped them to learn at their own pace. Findings of the qualitative interviews showed that majority of students liked the developed courseware because the VR scenarios make learning more engaging and interesting. Most importantly, these courseware helped them enhance their skills in administrating pediatric intravenous infusion.

View **Poster**
View **Video**

Online Venue
Room A

Areas of Interest
Virtual Reality (VR)/ Augmented reality (AR)

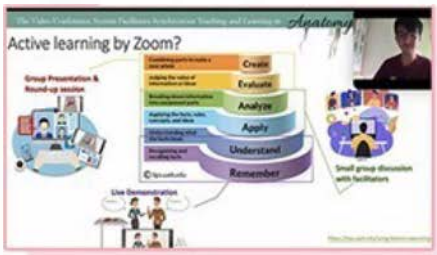
Highlights from poster presentations and talks

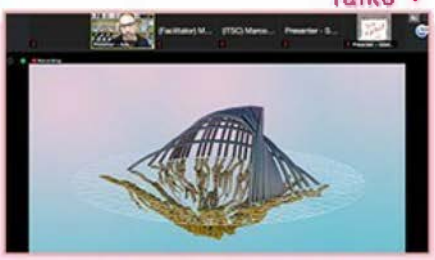


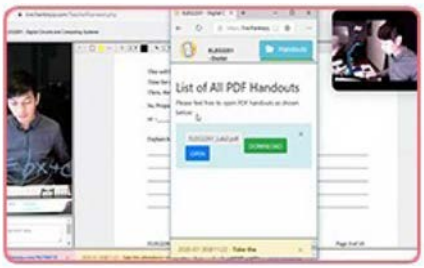
▲ Poster presentations

+

Talks ▼







▲ Poster presentations

+

For and against active teaching
CREATING
EVALUATING
ANALYZING
APPLYING
UNDERSTANDING
REMEMBERING

Our Team

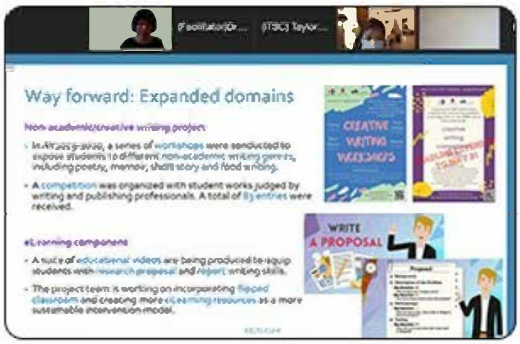
What is 3D Printing Technolo
3D scanning
3D System Colour Jet printer
3D PRINTED ARTIFICIAL ORGANS

MSc Speech-Language-Pathology

Discipline modules: Disciplinary task scenarios
Find discipline/task information
Evaluate discipline/task information
Create task outputs

R- Virtual Reality

So she built a huge capsule around her house but it did not work


Way forward: Expanded domains
CREATIVE WRITING WORKSHOPS
WRITE A PROPOSAL

【抗疫●市況】大陸菜貴吃4倍同本地有機菜睇齊 本地農夫：訂單多咗但我哋唔會加價！
（蘋果日報）

Partnership in PASS

(ITSC) Taylor...
Making of MMCDs

English Across the Curriculum:
Use of Capstone Ninja to Support FYP Report Writing
Project Objectives

PAPERS

P10: eLearning Courseware for Elementary Japanese Language Learning in CUHK

Presented by
Prof. Chi Ming HO, Department of Japanese Studies, The Chinese University of Hong Kong

Abstract
This project is supported by The Chinese University of Hong Kong Courseware Development Grant (2018-19). This eLearning courseware aims to create an eLearning platform for the elementary Japanese language learning Level 1 and 2 in The Chinese University of Hong Kong (CUHK). The set of original Japanese language textbooks published by Department of Japanese Studies, CUHK is the main teaching materials for all CUHK elementary Japanese language courses. This set of textbooks was first published in 1992. Although it has been revised a few times in recent years but there is still no eLearning component included. Therefore students still cannot benefit from the rich resources of eLearning in this technology-driven era. In order to fill this gap, this eLearning courseware provides a series of learning materials based on the content of the textbooks. This eLearning courseware serves as a support to the current textbooks (Japanese Book 1 and 2, Chapter 1-24) and provides channels for further development of language skills and knowledge under relevant topics in each chapter. This eLearning courseware is focused on developing learning materials for students to access and supporting students' interactions by interactive activities including online exercise, quiz, introduction of new vocabularies. It is also focused on formative assessments through those exercises and quizzes. This eLearning courseware demonstrates originality in the enrichment of eLearning of Japanese language with the support of CUHK original teaching material which cannot be found elsewhere.

View **Poster**
View **Video**
View **Paper**

Online Venue
Room B

Areas of Interest
Language Learning

The Chinese University of Hong Kong
Teaching and Learning Innovation Expo 2019 (3rd December 2019)

eLearning Courseware for Elementary Japanese Language Learning

HO Chi Ming
Department of Japanese Studies

Keywords: Japanese language, Vocabulary exercise, Vocabulary quiz, Grammar exercise/quiz, Self-learning

1. Introduction

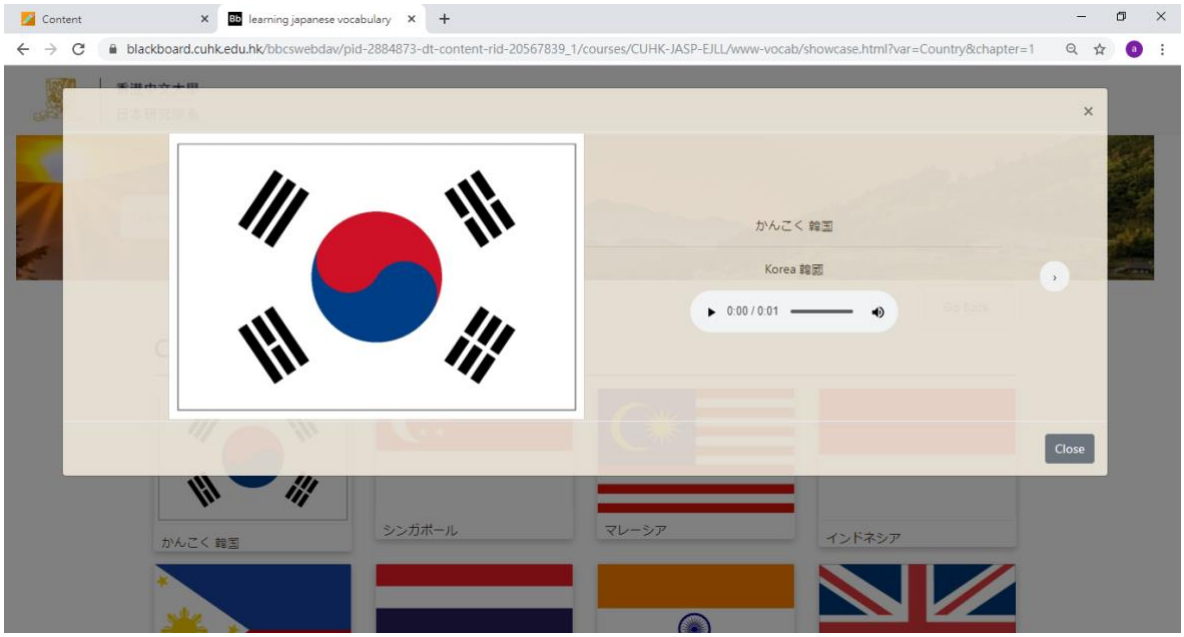
This project aims to create an eLearning platform for the elementary Japanese language learning Level 1 and 2 in the Chinese University of Hong Kong (CUHK). The set of original Japanese language textbooks published by Department of Japanese Studies, CUHK is the main teaching materials for all CUHK elementary Japanese courses. This set of textbooks was first published in 1992. Although it has been revised a few times in recent years but there is still no eLearning component included. Therefore students still cannot benefit from the rich resources of eLearning in this technology-driven era. In order to fill this gap, this project provides a series of learning materials based on the content of the textbooks. This eLearning project serves as a support to the current textbooks (Japanese Book 1 and 2, Chapter 1-24) and provides channels for further development of language skills and knowledge under relevant topics in each chapter. This project is focused on developing learning materials for students to access and supporting students' interactions by interactive activities including introduction of new vocabularies, online vocabulary game and grammar quiz. It is also focused on formative assessments through those exercises and quizzes. This project demonstrates originality in the enrichment of eLearning of Japanese language with the support of CUHK original teaching material which cannot be found elsewhere.

2. Structure of courseware

There are 3 sections in this project.

2.1 Learning Vocabulary

This section introduces new vocabularies which are related to the topics in textbooks but not included in the textbook. There are many new vocabularies which students may wish to know. For example, smartphone, apps, internet, …. It takes time for the editorial board members in the Department of Japanese Studies to revise the textbook by generating a new edition every year to absorb new vocabularies. However, it is relatively simple to revise the content of this courseware. Editorial board members in the Department of Japanese Studies can add/delete new vocabularies any time if necessary.



In this project, the amount of new vocabularies has been largely increased to over 500 and the vocabularies related to cultural topics are also included in the

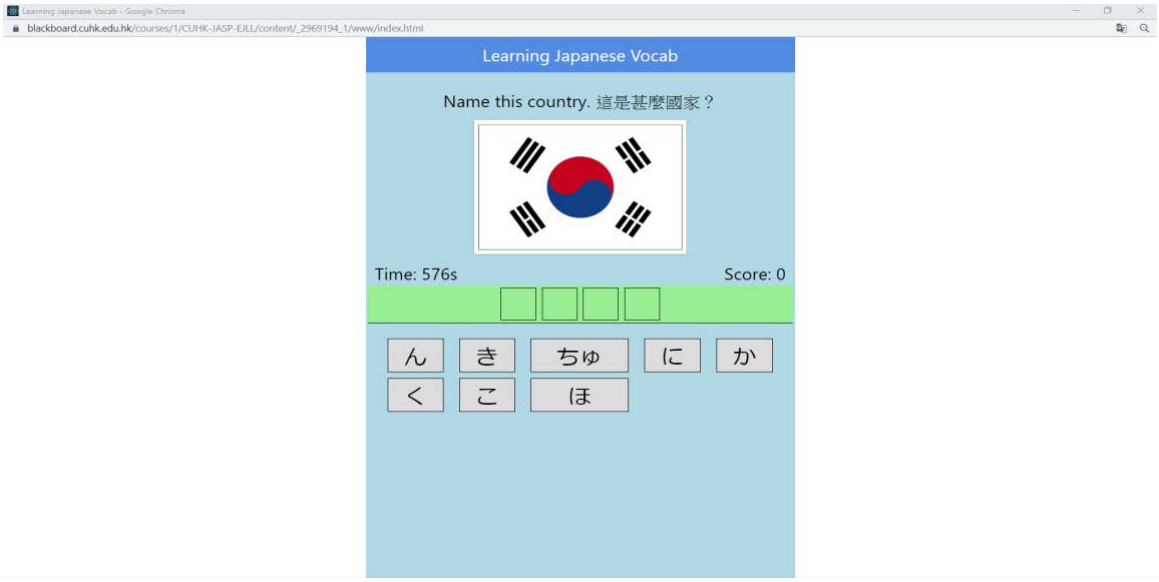
courseware to provide better teaching quality.

Topic for each chapter

E.g. Chapter 2: Stationary & IT Technology
Chapter 14: Transportation & Railway Station
Chapter 17: Illness & Medicine
Chapter 22: Prominent figure in Japan & Unusual place names

2.2 Vocabulary Game

This section checks the vocabulary knowledge in 'Learning Vocabulary'. Hints are provided for students to select.

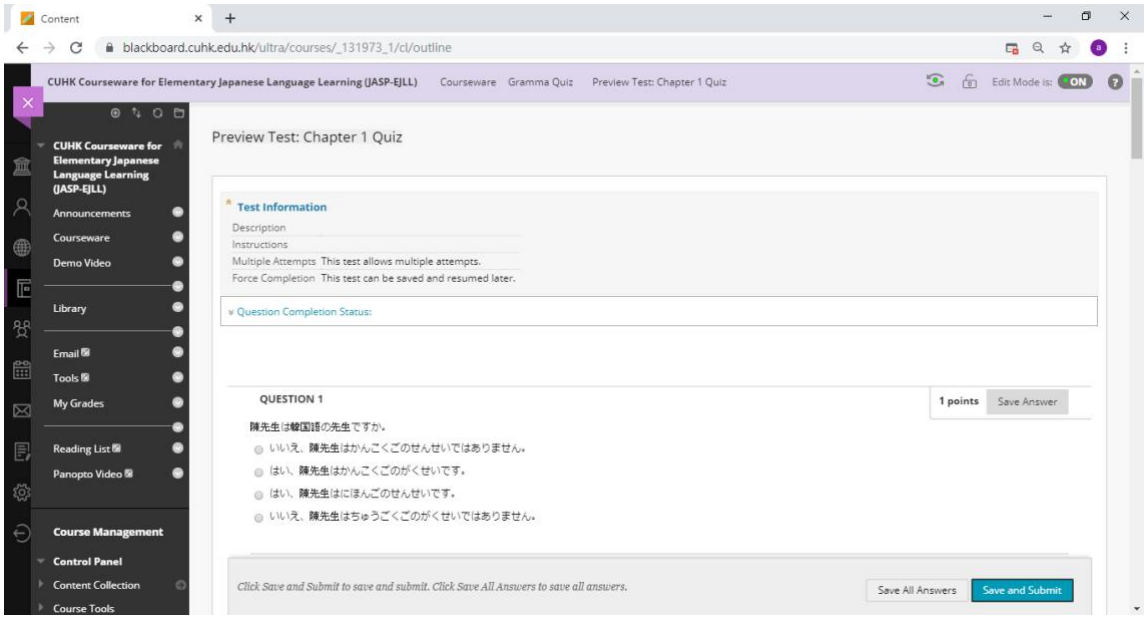


2.3 Grammar Quiz

This section is the exercise for grammar sentence patterns by applying the new vocabularies learnt in Section 2.1. The grammar sentence patterns will be the same as in the textbooks. This project applies the build-in functions in

CUHK Blackboard and the following types of questions are included.

a. Multiple Choice
b. Matching
c. Building Sentence



3 Impact of this project

All students taking elementary Japanese language courses offered by Department of Japanese Studies (JAS) can be benefit from this project. These courses include:

JASP1450 New Practical Japanese I (for non-JAS major students)
JASP1460 New Practical Japanese II (for non-JAS major students)
JASP1470 New Comprehensive Japanese I (for JAS major students)
JASP1480 New Comprehensive Japanese II (for JAS major students)

Currently, more than 700 students are taking these courses every year. Department of Japanese Studies is now offering this courseware to all students taking the above courses. Students can login this courseware by using

CUHK Blackboard which is very simple and easy. There is a function in this courseware to record their performance too, where they can view their scores after the game. The courseware can provide not only extra learning support to CUHK students outside the textbook materials learning, but it will also serve as good example to other universities/tertiary institutions in Hong Kong offering Japanese language teaching.

4 Guest account for non-CUHK students

Besides the student's account, Department of Japanese Studies has a guest account for this courseware for our teachers and staff to use. In addition, after login, click '**Courseware for Elementary Japanese Language Learning**", then user will enter the main manual of the courseware. Click '**Demonstration Video.mp4**' and user will see a short demonstration of how to use this courseware.

This project is supported by Courseware Development Grant 2018-19 (Teaching Development and Language Enhancement Grant in the 2016-19), Project Code: 4170584

P24: Participatory Learning: The Case of Ping Che (坪輋) in City Development in Hong Kong

Presented by
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Ms. Ka Po WONG, Independent Learning Centre, The Chinese University of Hong Kong

Abstract
Substantial efforts and resources have been put to encourage creative teaching and learning in recent years in many places in the world. Various kinds of funding have been allocated to projects promoting or studying experiential learning, participatory learning, internship and service programmes, etc. These projects not only aim at complementing formal curriculums but also broadening students' horizons. However, the effectiveness of such experiential learning is not easy to measure. Various evaluation methods have to be applied to fully assess the achievements and difficulties of these learning experience.

This study examines the effectiveness and challenges of a participatory community learning project at the Chinese University of Hong Kong. Twenty-one university students took part in a Teaching Development and Language Enhancement Grant (TDLEG) project "CUHK in Communities" in September 2018. They spent nine months in Ping Che (坪輋), a rural area in the New Territories in Hong Kong, doing field visits in every two weeks and participating festive activities with locals to understand the intertwined facets of the people's living under the threats of city development.

Ping Che is an exemplary case to rethink the legitimacy of the global trend of urbanisation under developmentalism. Through on-site participatory learning, students gained first-hand observation and opportunities to test some of the core concepts they learn at university: the pursuit of good life, land justice, civil participation, etc.

In order to effectively evaluate the achievements of and the difficulties faced by students, participatory observation, questionnaires, reflective journals and focus groups were used.

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Room A

Areas of Interest
Pedagogical Advancement I

PARTICIPATORY LEARNING: THE CASE OF PING CHE IN CITY DEVELOPMENT IN HONG KONG

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Abstract

Substantial efforts and resources have been put to encourage creative teaching and learning in recent years in many places in the world. Various kinds of funding have been allocated to projects promoting or studying experiential learning, participatory learning, internship and service programmes, etc. These projects not only aim at complementing formal curriculums but also broadening students' horizons. However, the effectiveness of such experiential learning is not easy to measure. Various evaluation methods have to be applied to fully assess the achievements and difficulties of these learning experience.

This study examines the effectiveness and challenges of a participatory community learning project at the Chinese University of Hong Kong. Twenty-one university students took part in a Teaching Development and Language Enhancement Grant (TDLEG) project "CUHK in Communities" in September 2018. They spent nine months in Ping Che (坪輋), a rural area in the New Territories in Hong Kong, doing field visits in every two weeks and participating festive activities with locals to understand the intertwined facets of the people's living under the threats of city development.

Ping Che was first included in the North East New Territories New Development Areas Planning which involved clearance of village houses and land resumption. The plan met strong resistance from non-indigenous inhabitants. Later in 2015, the government reviewed and replanned Ping Che into the New Territories North Study, but the threat of land redemption remains. Since then, the locals and social activists have been organising community engagement activities such as community tours, art festivals, and running Ping Che Mural Village. These efforts not only revived rural cultures and empowered villagers with strong identity, but also united participants as a growing resistance to the development plan.

The Ping Che community is an exemplary case to rethink the legitimacy of the global trend of urbanisation under developmentalism. Through on-site participatory learning at Ping Che, students gained first-hand observation and opportunities to test the concepts learnt in class: the pursuit of good life, land justice, community-initiated development, and equal participation in a civil society, some of the core components of university general education.

In order to effectively evaluate the achievements of and the difficulties faced by students, participatory observation, questionnaires, reflective journals and focus groups were used.

Keywords: Experiential learning, informal education, community engagement, community studies, qualitative research

1 INTRODUCTION

Since the early 1970s, experiential learning has been widely adopted in educational programmes. Many educational innovations have included experiential learning as one of their major components. More and more educators are experimenting with experiential learning practices such as service learning, problem based learning, action learning, adventure education, and simulation and gaming (Kolb & Kolb, 2017). All these practices emphasise learning engagement which can be traced back to the education philosophy of John Dewey. Dewey (1939/1986) notes that traditional education which emphasises imposition from above and from external hinders students from understanding the real forces in society. He therefore proposes a combination of formal teaching with direct learning experiences in selected environments. "His philosophy of 'learning-by-doing' not only allowed learning to become more immediate, it also allowed students to test their theories and symbols learned in school. (DeGiacomo 2002, p. 245)

Given the nature of experiential learning, it is understandably more an integral part of informal learning. In response to the keen interest in creative teaching and learning gradually developed in recent years, substantial resources have been put to encourage learning experiences outside the classroom and off-campus. It is believed that these learning experiences will complement to classroom learning and beneficial to students in the long run.

"CUHK in Communities" is one of the many projects funded against this background. It is a non-credit bearing participatory community learning project supported by the Teaching Development and Language Enhancement Grant (TDLEG 2016-19) at the Chinese University of Hong Kong (CUHK). Students' participation is solely voluntary. The project focuses on facilitating a group of twenty to thirty students each year in the two-year project to cultivate a deeper understanding of Hong Kong communities through engaging community research. This paper examines the second year engagement at Ping Che (坪輋) where students spent nine months doing field visits and community participations.

Ping Che is a rural area in the New Territories in Hong Kong which has been under severe threat of city development in recent years (Kwan et al., 2018). The government's development plans there met strong resistance from non-indigenous inhabitants (Civil Engineering and Development Department, 2013). The locals and social activists have been organising community engagement activities to reunite the villagers (*iMoney*, 2015; Tsang, 2019). In so doing they revitalise a Ping Che identity that empower them to resist the destruction of their homes.

Nowadays, social justice—including land use justice, community-initiated development, participatory democracy, etc. have become important components of university education. The Ping Che community is an exemplary case for students to examine the notions they have learned in classroom. From September 2018 to June 2019, twenty-one students have undertaken field visits regularly and participated in festive activities with locals to understand the intertwined facets of the people's living under the threats of city development. Their understanding of community and community participation were also tested.

2 METHODOLOGY

In order to fully evaluate the accomplishments of students and understand the difficulties they face, participatory observation, questionnaires, reflective journals and focus groups have been employed in this study.

Twenty-one students from the Faculties of Arts and Social Sciences were recruited in September 2019. They were led by Dr Sampson Wong, an urban studies scholar and independent art curator, to do field work every two weeks at Ping Che during term times. A total of sixteen meetings were held. Activities included thematic tours, sharing talks by villagers and activists, discussions and cultural events, etc. Debriefings were organised as far as possible after each meeting to review what the students have gained and to keep track of the changes and development of their perceptions towards community building, city development and resistance.

One reflective journal was collected after the tour on agriculture development at Ping Che held in October 2018, an early stage of the project. Students were asked to write brief reflections on that particular tour. The reflections were used as reference for the analysis of the two focus groups held in September 2019 after the project has finished. The authors participated in the whole process and fine-tuned the project goals and direction when necessary.

Two focus groups, each consisted of four students, were conducted in September 2019 to review comprehensively the Ping Che project. Discussion was divided into three parts: 1) students' overall reflection of the project and their accomplishment; 2) in what ways the project affected/not affected their understanding of community building in general and of Ping Che in particular; 3) the impact of the project on the local community and the linkage between their community engagement and the knowledge they have learnt in class. An online survey was launched in July 2019 before the focus groups to solicit feedback. It is tabled in the part 3.

Table 1. Focus Groups Participants' Information.

Student	Major & Minor Study	Year of Study	Gender
A	Cultural Studies, Bachelor of Arts	3	M

B	Geography and Resource Management, Bachelor of Social Science	2	M
C	Anthropology, Bachelor of Arts	1	F
D	Earth System Science, Bachelor of Science	1	F
E	Anthropology, Master of Arts	N/A	F
F	Cultural Studies, Bachelor of Arts	3	F
G	Major: Chinese Language and Literature, Bachelor of Arts Minor: Cultural Studies, Bachelor of Arts	4	M
H	Urban Studies, Bachelor of Social Science	3	M

3 RESULTS

The discussion of the focus groups and data collected by means mentioned above are analysed in four parts: 1. understanding concepts; 2. taking actions: participating in community; 3. impacts on studies, internships and abilities; 4. difficulties and limitations.

3.1 Understanding Concepts

3.1.1 Land Justice

Both in the reflective journals collected in the early stage of the project and in the focus groups conducted after the project has finished, students affirm a deeper understanding and their conviction of some major concepts, such as land justice, that have been discussed thoroughly in the project. After the field visit to various kinds of Ping Che agricultural land, a majority of them state that they understand more about the problems of land destruction in urban encroachment, and the difficulties local agriculture faces, including the loss of farmland and the relocation of inhabitants and farmers which are highly related to urban development.

Storytelling plays an important role in their understanding of reality. Seven out of eight students in the focus groups bring up the impact of the Government's Northeast New Territories Development Plan (NENTD) on the natural environment and the livelihood of residents. The stories they heard from villagers are depicted vividly. Student B comments, "We often hear how development and construction of infrastructure affect villagers, but all are like hearsay and very remote. Now I have real conversations with villagers whose living are seriously disrupted. They are real people, not just 'stories' I hear." Student F feels sympathetic for the villager when she saw her crying over the destruction of the natural environment. They are more convinced of the injustice of development and the disruption of lives by the real life stories told by first-hand villagers they encounter in the field.

Their feeling and understanding are further consolidated and elaborated in the publication of *Ping Che Seven Years* (坪輋七年), a collective effort of students to record their observations and understanding of the community. Through research and data analysis, they dig even deeper and wider into the problems discussed in the field visits. One obvious example is that they not only trace the history of NENTD in Chapter One, they even discover the linkage between the construction of Liantang Port / Heung Yuen Wai Boundary Control Point (蓮塘口岸 / 香園圍邊境管制站) to the New Territories North Study in which Ping Che was replanned in 2015. The linkage has never been explicitly mentioned by the government.

3.1.2 Relationship between Urban/Rural

Half of the students reflected that the project enables them to rethink the relationship between urban and rural, and their own relationship with nature. Student A, an urban dweller, profoundly sensed his linkage with the rural during his internship in a Taiwan rural community centre right after the Ping Che project ended. The Ping Che experience for him is "a flashback", "a nostalgia of village".

The deep connection between urban and rural they see in activists also impresses them. Student C states she was quite impressed by the sharing of an architect who was in charge of the stage design of an art performance. She has never thought of a "high-class" architect would participate in down-to-earth work in rural areas.

More research are done on the local agriculture in Ping Che in *Ping Che Seven Years*. Students recommend the general public to purchase more local farm products to support local farmers and agriculture.

3.1.3 Community Building

Before joining the project, students imagined community in a rather traditional and static way, considering it a place where people gather, forming a communal and thus constructing a unifying identity. Yet, after the first-hand experience and engagement in the Ping Che community, they realise that community building is of high complexity.

The differences among villagers are seen when the students participate in community events. Student C witnessed the conflicts between villagers regarding the selling of the same snacks in a Ping Che music performance in December 2018. Student F thinks that she will never be able to realise the different views in a community, especially a community of common goal, if not for this project. Negative image of a resistant community becomes more acceptable as more conflicts were revealed later. Student H who studies urban studies reviews the concepts he learned in his major and concludes that differences as well as similarities are what define a community. Most of the students apply this realisation of community dynamics to the understanding of society.

The empowerment of positive memories of the community is as impactful as the negative experience. Students are all impressed by the Fire Dragon Dance in Mid-Autumn Festival 2018. They witnessed a free and joyful atmosphere shared by villagers and outsiders. These firsthand on-site experiences further enhance their understanding of social dynamics and facilitate them to participate in different communities.

3.1.4 Civic Participation, Social Movement and Resistance

The notions of civic participation and resistance are critically examined throughout the project. The larger social context is crucial for understanding the community building movement in Ping Che, not only because it is directly related to the threats of urban development in recent years, but the activists involved also participate in other social movements. In the discussion, students reflected much on three crucial time: the suspension of the development plan in 2013, the failure of Umbrella Movement in 2014, and the District Council election in 2015.

In autumn 2014, the Umbrella Movement pursued universal suffrage overwhelmed Hong Kong. The 79-day movement eventually failed in fighting for a democratic election. Afterwards, the society entered a state of disappointment, laceration and even hostility. "Community building" and "civic participation" were two much advocated concepts after the movement for personal and social resilience. The resistance of urban development and community building at Ping Che should be examined under this bigger picture. Student A sees the relation and adds, "The purpose of our project is not only to reunite villagers here, but also to serve as a way to heal people's wounds after the failure of Umbrella Movement because they could voice out their grievances during the interviews we did." Student F further relates the Ping Che story to the current social movement in Hong Kong, "When I recall villager Choi Gor's comments of those inactive villagers, I immediately think of my participation in social movement. Am I one of those he criticises, who are passive or even indifferent toward civic responsibilities?"

3.1.5 Empowerment and Agency

Students become more aware of the agency the locals and activists exercise in community building. This further encourages them to be more proactive in other community participations. One prominent example of agency they observe is the locals and activists' participation in the District Council election in autumn 2015. Villager Choi Gor was one of the candidates in Sha Tau Kok-Ta Kwu Ling Zone (沙頭角打鼓嶺選區). He was backed up by the Ta Kwu Ling/Ping Che Alliance for Saving Our Home (打鼓嶺坪輋保衛家園聯盟) to fight against the pro-China political parties. Student E appreciates the integrated and effective social network in the election campaign. "They did not rely on authorities because they were already the people possessing power," she notes. The exercise of empowerment and agency boost her confidence in participating or even initiating campaigns in other communities. Student H adds, "WE should think about what we can do for the community." He finds that he is motivated to take action

after learning various abstract concepts and understanding the real situations in a community. “Perhaps there will be more surprises and unexpected outcomes after the doings,” he says.

3.2 Taking Actions: Participating in Community

3.2.1 Relationship between outsiders, insiders and the community

Nearly all of the students in focus groups consider themselves as outsiders relative to the Ping Che locals. “Why should we enter a community that we are not familiar with?” asks Student E. Later she resolves this question by interacting with Ping Che villagers during interviews done for the publication. She finds that she enjoys doing oral history in which she understands people and establishes relationships with them. Student G finds it exciting when making friends with a social activist during interview, as they also have intellectual exchanges and chit-chat on other topics not related to the interview.

It was not surprising that students pay considerable attention to the power relations between the locals and the researchers, and the influence of the outsiders over the insiders and the community. Almost all students agree that the project reminds them to deeply understand the community and the people living there before they decide to participate in or to conduct research. “I used to think that informants are obliged to provide information for researchers. But I realise that no one is obliged to provide answers to my questions.” Student H shares similar experience. He later figures out that as an outsider, he should first understand the background of informants, build up trust and establish a less-hierarchical relationship.

Students also review their involvement in Ping Che community. Most of the students consider keeping a long-term relationship with Ping Che. Student E particularly points out that she wants to keep contact with Ping Che as she has already done so much there. Inspired by the project, student B would like to explore more the rural villages in Hong Kong, while student C and G both decided to participate in the community in Kwai Chung, southwest New Territories, where a cluster of southeast Asians reside. Student A, with a greater determination, is convinced to take community work as his career in the near future.

3.3 Impacts on Studies, Internships and Abilities

The discussion above has already touched upon the impacts of the project on the students’ studies, internship as well as the enhancement of their abilities. We will further examine some of the impacts in detail below.

First and foremost, students confirm that the project facilitates them to understand the theoretical frameworks and concepts taught in their majors. “I incorporate Ping Che’s story in my term paper, and it helps me understand more about power and resistance,” said student G in Cultural Studies. “I’m not a very down-to-earth person. This project helps me get out of the ivory tower and be more practical.”

Ping Che is considered a case study par excellence for different disciplines. For Urban Studies and Geography, Ping Che is a good example to examine the community building process and villages as one housing type, according to student H and B. Cultural Studies undergraduates student A and F analyse the appropriation and transformation of space there.

Regarding the influences on internship, student D and E both agree that the project experience reminds them to consider environment and development issues at work. Student D will add more discussion about environmental protection when she guides tour for the climate change museum. Student E has engaged in an oral history project in another district in northeast New Territories in which she rethink human connection with nature.

It is worth noting that half of them take affection as one key element of the outcomes of the project. Student A doubts the research work in university in which “researcher and the research subjects keep a distance from each other” will actually hinder students’ learning progress and outcomes. Student E adds that any emotional attachment to the research subjects will be regarded as unprofessional and biased in their studies. However, personal feelings and emotional attachment are not prohibited in this project, which made them feel more comfortable. Because of the emotions attached to Ping Che, their community participation became more intense as well.

There are several abilities that students find improved after joining the project. While most of them are satisfied with the publication as it allows them to practice their writing skills and boost their creativity, some find the collaboration with others, especially those with different academic backgrounds, more

fruitful. “We learn from each other. I did not know how to ask interview questions properly. My teammates from faculty of social sciences help me by adding precise follow-up questions,” said student H. Some students confirm that the intense training and participation in the project help develop their sense of responsibility and punctuality.

3.4 Difficulties and Limitations

The recruitment of students was done in a careful and strict manner to ensure their commitment and true interest in community studies. The students recruited are highly motivated and enthusiastic towards community participation. However, like many of the informal, voluntary learning activities, the project faces typical challenges of student commitment.

As students have tight study schedules during the semesters, weekends, in which our learning activities take place, are usually reserved for revision or assignments. In the nine-month participation, low attendance appeared more frequently in late semester when exams and assignments increased. Partial participation cannot guarantee every student will have thorough understanding of the whole learning process. We have to follow up individual cases and coach those who are behind schedule. Considerable amount of administrative work and individual coaching are inevitable. This is the reason why we insisted to hire a full-time RA in the beginning.

Another difficulty, though in similar nature but is of different impact, is that students are shouldered with all kinds of responsibilities. Other than their major studies, their schedules are filled with internships, part-time jobs and extracurricular activities. As a result, efforts could be put in the project are limited, and some students even quit. The problem becomes obvious and critical in the preparation of the publication and the community day. Work meetings are difficult to arrange to fit for everyone’s schedule. Although division of work has been discussed and agreed, deadlines sometimes cannot be met, or the quality of work is not satisfactory. Our intervention and assistance become crucial. In some cases, the objectivity of this kind of participatory studies is questionable. As for this study, the limitation of students is one of the key aspects to look into.

3.5 Outcomes of Each Kind of Activity

There are four kinds of learning activities in the project, namely thematic tours, on-site sharing talks, cultural events and publication. The following tables reveals the general outcomes and the particular feedback students give in the questionnaire (Q) (n=6) and the focus groups (FG) (n=8).

Table 2. Outcome of the Thematic Tours.

	Outcome	Average Score (5 = Most agreed; 1= Least agreed)
Q	The tours deepen my understanding towards various villages in Ping Che.	4.67
FG	Student B, C, D, E, F: The tours allow us to keep inline with the reality in the community, revising our imagination of it.	

Table 3. Outcome of the Sharing Talks.

	Outcome	Average Score (5 = Most agreed; 1= Least agreed)
Q	The sharing talks deepen my understanding of the ups and downs in community building.	4.83
	Student A, G: The guest speakers deepen our understanding of the historical development of Ping Che in the last seven years.	

FG	Student B, D: The guests' life stories allow us to understand their entrenched relationship with Ping Che community.
	Student G: I am able to get non-mainstream information from the guests, which impresses me a lot.

Table 4. Outcome of the Cultural Events.

Outcome		Average Score (5 = Most agreed; 1= Least agreed)
Q	The cultural events boost my confidence in entering Ping Che community.	4.33
FG	Student A, F, G: The cultural events enhance my sense of belonging to Ping Che community.	
	Student F: The Mid-autumn Fire Dragon Dance allows me to meet other inhabitants who were not in our sharing talks.	
	Student E: The events let me understand the real practice of community events, which I've never experienced.	

Table 5. Outcome of the Publication Ping Che Seven Years.

Outcome		Average Score (5 = Most agreed; 1= Least agreed)
Q	Desk research helps me clarify the history of the NE New Territories Development.	4.33
FG	Student B, E, G: The preparation of the publication deepens my understanding of various aspects in Ping Che, including the development plan, local agriculture and other economic activities, community art and cultural traditions.	

4 CONCLUSIONS

Experiential learning has become a major component in many educational innovations. Educators are convinced that engagement and participation in real life situations not only allows learning to be more immediate, it also allows students to test the knowledge they learned in school. The Ping Che community project confirms the education philosophy.

The project provides an opportunity for the students to examine the concepts and theories they learned in class. Students revisit their preconceptions and misunderstandings about various facets of communities. Knowledge and perceptions are contested and revised against real-life experience. Impacts and consequences of developmentalism are also critically examined against the endangered Ping Che community.

Students' interaction with villagers and social activists allow them to realise the complexity of community building. After studying the civic participation and resistance there, some students are motivated to participate more in other communities. Because of the increasing contact between students and inhabitants, most of them recognise the power relations between outsiders and the locals. The rethink of research ethics is one unintended consequence.

Students' experience in informal learning in return benefits their studies, internships and work. The Ping Che experience becomes a reference point of their studies and work. On the other hand, the publication of *Ping Che Seven Years* enables them to practice desk research and writing skills, and also facilitates the cooperation among students from various disciplines.

In conclusion, the long-term participatory learning impresses students in many ways as these on-site sharing talks, thematic tours and cultural events are often absent in their studies. They not only gain unexpected experiences and establish social network in Ping Che, but also build up an emotional attachment to the community as well as the place. Despite the limitations and difficulties encountered, engaging research, participatory learning, and emotional attachment are appreciated and endorsed by students.

ACKNOWLEDGEMENTS

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Talk: Outreach and Education in Performing Arts: Advocating Arts to the Public

Presented by
Prof. Fanny Ming Yan CHUNG, Faculty of Arts, The Chinese University of Hong Kong

Abstract
Focusing on the outreach and education programmes of the major performing arts groups in Hong Kong which are directly funded by the HKSAR government, the research will examine the emergent forms of outreach and education programmes as they relate to audience development. While outreach and education has been an indispensable sector of the major performing arts groups, there is very little known about the implementation and impacts of these programmes. This study aims to: (i) understand how the cultural leaders perceive the role of outreach and education in performing arts institutions; (ii) investigate how the outreach and education sector contributes to audience building in performing arts; and (iii) reveal the conditions that support and challenge the development of outreach and education in the major performing arts institutions in Hong Kong.

This study was largely grounded in fieldwork centred around the cultural leaders and practitioners of the major performing arts groups. Interviews with six cultural leaders who are at the top management level, and extensive observations (e.g. workshops and performances) were conducted during the fieldwork. Also, archival research on outreach was conducted and this has brought important insights into the changing ecology of cultural development in Hong Kong.

This project will contribute to understandings of the role and impacts of outreach and education programmes of the major performing arts groups in Hong Kong, particularly in relation to audience development. The findings may also have significant implications for the cultural development and policy-making in performing arts in Hong Kong and beyond.

View **Paper**

Online Venue
Room B

Areas of Interest
Learning by Doing

Advocating Arts to the Public: Outreach and Education in Performing Arts

Fanny M. Y. CHUNG

The Chinese University of Hong Kong

Abstract

Nine major performing arts organizations (otherwise known as "Big Nine" or MPAOs) are directly funded by the Hong Kong SAR Government (HKSAR) in Hong Kong. In view of the relatively low attendance rate in performing arts in Hong Kong (Home Affairs Bureau, 2012), there is a pressing need for the performing arts sector to advocate arts to the public and develop audience. Taking a qualitative research approach, the researcher conducted in-depth interviews with five cultural leaders in Hong Kong. This study aims to examine the impacts of outreach and education programmes in the MPAOs in Hong Kong. The findings suggest that the outreach programmes can achieve educational goals in various perspectives, such as aesthetics, whole-person development and cultural citizenship. Nevertheless, the immediate impact on audience attendance is questionable and the interviewees of this study suggested that the nurturing of interests should be prioritized. The findings of this study may help the performing arts organizations identify and formulate the outreach and education strategies that best benefit the public and suit the audience development needs.

Introduction

According to the current funding mechanism of Hong Kong, nine major performing arts organizations[1] (otherwise known as "Big Nine" or MPAOs) are directly funded by the Hong Kong SAR Government (HKSAR). In addition to putting up superb performing arts programmes for inspiring and elating audiences in Hong Kong and around the world, the component of outreach and education also play a significant role in all the major nine major performing arts organizations. In view of the relatively low attendance rate in performing arts in Hong Kong (Home Affairs Bureau, 2012), there is a pressing need for the performing arts sector to develop high quality outreach programmes to tailor for the purposes of advocating arts to the public and audience development. Taking a qualitative research approach, the researcher conducted in-depth interviews with five senior arts administrators who are considered as cultural leaders in Hong Kong and are currently at the Director, Head and Manager Rank of the MPAOs. This study aims to examine the impacts of outreach and education programmes in MPAOs in Hong Kong, with particular focus on the aspects of education and audience development.

Outreach and Audience Development in Performing Arts Organizations

[1] These are Hong Kong Philharmonic Society Limited, Hong Kong Chinese Orchestra Limited, Hong Kong
Sinfonietta Limited, Hong Kong Repertory Theatre Limited, Chung Ying Theatre Company (HK) Limited, Zuni Icosahedron, Hong Kong Dance Company Limited, The Hong Kong Ballet Limited and City Contemporary Dance Company Limited.

The term "Outreach" refers to any efforts that seeks to ensure the greatest possible impact of arts productions on artists and audiences, as well as the efforts to reach new audiences and to educate the community about the beauty and value of arts (Bradaric, 2007). Scholars have made attempts to define the underlying meaning of audience development. Maitland (2000) defined audience development as a planned process which involved building a relationship between an individual and the arts; Single (1991) defined audience development as building larger audiences through a combination of promotion, publicity, marketing, communications, education and outreach; and Australian Council (2015) defined it as a strategic, dynamic and interactive process of making the arts accessible. Single (1991) further suggested that the focus of audience development should not be only on the quantity, but also the quality which is indeed of utmost importance. According to Kawashima's (2000) conceptual framework, there are four types of audience development, namely (i) Cultural Inclusion; (ii) Extended marketing; (iii) Taste Cultivation; and (iv) Audience Education.

In view of the decreasing number of audience and the increasing competition among leisure activities, arts establishments in the globe have focused increasingly on audience development (Scollen, 2009). "Test Drive the Arts" was a one-year audience development programs in Australia, that provided participants with two complimentary tickets to attend one live performance. Participants were invited to attend the second performance with discounted rate and the third performance with other incentives such as a complimentary drink. Another audience development programme was named "Talking Theatre", providing participants with three complimentary tickets to attend three live performances which vary in style and content. Participants were then invited to attend future performances with occasional incentives. Both audience development programmes receive positive results, with an average of 30% of the participants purchased tickets after the programs.

Method

Taking a qualitative approach, the data was gathered via semi-structured interviews with the cultural leaders in Hong Kong. Convenience sampling was adopted in this study in which five senior arts administrators of the nine MPAOs in Hong Kong at the rank of Director, Head and Manager were invited for the interviews. The qualitative data collected was analysed based on Hachiya's (2001) conceptual framework of Arts Education.

Results

To what extent do the outreach and education in the performing arts institutions make impacts on the participants (if any), in terms of education?

The qualitative data collected was analysed based on Hachiya's (2001) conceptual framework of Arts Education. It was identified from the findings that there exists three layers of significance of arts education in the Outreach and Education of the performing arts organization:

- *Layer 1: "cultivate aesthetic appreciation as well as increasing their perception of the arts" – feeling of enjoyment; increased interest; development of knowledge; and enhanced understanding in the arts.*

- *Layer 2: "contribute to students' total development" - being a better man; improved ethic quality; enhanced mental health and physical condition; and acquired knowledge and generic skills through the learning of arts (e.g. language, social and communication, cognitive and physical development.*

- *Layer 3: "develop cultural citizenship, and preparing people to be competent and responsible members of their cultural communities" – development of sense of responsibilities in the community, greater understanding of self and society; improved human quality; enhanced cultural and national identity; and enhanced ethics and moral values.*

To what extent do the efforts of outreach and education make authentic impacts on the audience development (i.e. the number of audience) of the performing arts organizations (if any)?

All the interviewees in this study suggested that it is hard to quantify and measure the effectiveness of outreach and education programmes in terms of audience building, though they all recognize the value of outreach and education programmes in promoting the arts and their organizations. Interviewee 1 said, "It is difficult to measure the results of audience building. It might require a longer time to see the result". Interviewee 2 said,

> It is hard to quantify [the impacts on box office]. We can keep track of the number of tickets purchased by our members, but it's hard to measure how many tickets each of our members has purchased after they joined as a member, especially the URBRIX system cannot provide these statistical data for us.

On the other hand, however, all the interviewees in this study have noted the increased interests among the participants through outreach programmes. Such increased interests may have positive impacts on audience building in the medium and long term. Other benefits brought by outreach programmes as revealed in this study include increased opportunities for the sponsorship and donation for the organizations due the nature of education.

Discussion

Impacts of Outreach in Performing Arts Organizations

The results of this study clearly indicated the significance of outreach programmes in the performing arts organizations, particularly in terms of educational value. Importantly, the results also indicate the provision of educational programmes in the arts in these informal settings can fill the gap of the formal education system, from the perspectives such as resources, variety, and artistry. All the arts administrators in this study suggested that there is no evidence on whether or to what extent their outreach and education programmes have made impacts on audience building, despite they all acknowledge the meaning and value of outreach programmes in the performing arts organizations. It is hard to quantify and map how the resources allocated to outreach programmes have contributed to audience building. As noted by one of the interviewees of this study, "We can check how many tickets have been sold to our members, but we can't measure how many tickets were sold after they become our members, especially

URBRIX can't provide such figures for us to study and keep track of". In fact, the cultivation of interests in the arts should be a long-term process. It is hard to measure without tracking records of students' life in longitudinal studies. With the awareness of such uniqueness of the arts, this implies that the performing arts organizations should continue to dedicate their efforts and resources with a long-term vision to develop not only audience for their group, but also audience for the arts industry as a whole. For the medium term, the performing arts organizations can continue to further broaden their membership mechanism for promoting loyalty and participation in the arts. Such purchasing and audience behaviours within the membership mechanism may provide the arts organizations with relatively traceable and quantifiable ground for future developing.

Collaboration among Performing Arts Organizations

This study has revealed the powerful impacts of creativity- and play-based outreach programmes. For example, the participants of SMILE and MUSE UP organized by the Chung Ying Theatre Company enhanced participants' development in their critical reasoning capabilities and sensitivity towards the society respectively. These could be evidenced by the performances and community services demonstrated by the participants. The findings speak for collaboration among the performing arts organizations for creating interdisciplinary arts engagement opportunities. Fisher and Preece's (2002) study noted that performing arts events are complements rather than substitutes and even the more audience attend a specific art form, the more likely the audience will become committed to the other. This helps dispel the notion of competitions among performing arts organizations and therefore encourage the performing arts organizations to collaborate more closely together to optimize the building of audience and address the diverse needs and interests of the audience or potential audience.

Conclusion

The findings of this study imply that the delivery of outreach programmes by performing arts organizations can achieve various perspectives of educational goals, which can fill the gaps of arts education in formal education of Hong Kong. Other benefits brought by outreach programmes include increased opportunities for the sponsorship and donation for the organizations due the appealing nature of education. Despite all the interviewees in this study suggested the great value of outreach and education programmes in the performing arts organizations, the authentic impact on box-office and audience building is still hard to measure and quantify. Nevertheless, nurturing interests in the arts and quality audience is a long-term process and, to this end, everyone has their own pace and path.

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P27: Blended and Experiential Learning in Computers and Society

Presented by
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Abstract
The course CSCI3250/3251 (Computers and Society/Engineering Practicum) was offered to Computer Science and Computer Engineering students in 2018–19 Term 2 to replace the ENGG2601/2602 combination in previous years. Feedback from previous years indicated students being passive in learning by attending lectures and seminars, and writing a project proposal without needing to produce any output.

In CSCI3250+3251, we experimented with the idea of "Break the Classroom" to introduce active group efforts of students to study a unique and relevant topic and share to their classmates in class presentations, and to design interactive games to engage their audience. The topics spread a wide range from technical and practical experiences to alarming social issues on computers and technologies. Students were further encouraged to write up their ideas in blog articles with online collaboration and interaction. With industrial visits, seminars were also no longer limited to be on campus.

Through the process, the teacher became a curator and a facilitator who secures the platform for the easy and efficient exchange of thoughts. In such a collaborative and experiential environment, there were issues on uniformity, consistency, and correctness in student works. Nevertheless, students had positive response, especially in understanding career possibilities, and acquiring practical skills.

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Online Venue
Room A

Areas of Interest
Pedagogical Advancement II

Blended and Experiential Learning in Computers and Society

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Abstract

We experimented with the idea of "Break the Classroom" in CSCI3250/3251 to introduce active group efforts of students to study a unique and relevant topic and share to their classmates in class presentations, and to design interactive games to engage their audience. The topics spread a wide range from technical and practical experiences to alarming social issues on computers and technologies. Students were further encouraged to write up their ideas in blog articles with online collaboration and interaction. With industrial visits, seminars were also no longer limited to be on campus.

Through the process, the teacher became a curator and a facilitator who secures the platform for the easy and efficient exchange of thoughts. In such a collaborative and experiential environment, there were issues on uniformity, consistency, and correctness in student works. Nevertheless, students had positive response, especially in understanding career possibilities, and acquiring practical skills.

1. Introduction

In 2018, the Faculty of Engineering retired the course bundle[1] Technology, Society and Engineering Practice/Engineering Practicum (ENGG2601/2602), and then the Department of Computer Science and Engineering started to offer Computers and Society/Engineering Practicum (CSCI3250/3251) in 2019 as the successor for students in the department. As a newly-hired lecturer, I was offered the opportunity to deliver the first cohort in 2018–19 Term 2. I unofficially surveyed previous students and teachers of the course in our department. My impression was that neither parties found it fulfilling. Students found the course technically irrelevant and time-wasting, while teachers found their efforts on logistics and guest liaison in vain. Students who enjoyed merely liked the fact that no real effort was needed for the course. The question definitely is, "*what can be done to engage the next students?*"

Curiosity is the best teacher. I considered the need to switch the role of learning initiators to the students. A renovation of curriculum and assessment was carried forward to adopt the ideas of blended learning and experiential learning, into the assigned 3-hour lecture time every week on a drowsy Tuesday afternoon.

2. Background

Blended learning has been a hit in higher education for more than 10 years. It is usually referring to the "thoughtful integration of classroom face-to-face learning experiences with online learning experiences" [1]. Students in our department are expected to be well-equipped for online learning, yet guidance is inevitable for an effective learning experience, collectively.

Experiential learning was almost a traditional wisdom of "learning by doing", and became more and more advocated by Hong Kong higher education in recent years in curriculum design. The holistic process of learning would not neglect the situations of "conflict, differences, and disagreement" [2] apart from the learning outcomes, and urges of students' self-reflection.

In my previous job, I have handled course preparation with blended learning and experiential learning components. The challenge here, though, was to tailor-make the concepts into a seemingly-dull "blathering" course.

One additional ingredient added into the curriculum redesign was the emphasis of communication skills. I realized from one of the CLEAR Professional Development Course [3] the inconvenient fact of Engineering students having low self-perceived competence in English language, showing the lowest scores in all aspects of writing, reading, listening, speaking, and vocabulary, comparing to students of other faculties. This is one crucial practical skill of future engineers and developers, easily neglected by our students.

3. Methodology

The learning outcomes of the course were revised to be:

- To nurture engineers who
  - employ critical thinking skills,
  - understand their position, and
  - are able to explore, collaborate, and communicate

A course project *A Short Introduction to Everything in CSE* was given to the students as the main assessment of the course, comprising:

- Group presentation in class (10 minutes by 2 students)
- Interaction with audience during presentation

[1] The bundle of the two courses of 2+1 credits is thereafter referred to as *one course*, since students were required to be enrolled in both courses, and the logistics were arranged as for a 3-credit course.

- 1 multiple-choice question based on contents to be used in term-end quiz
- Presentation writeup of 600–1000 words
- Individual article of 600–1000 on another topic

3.1. Teacher's role on curation and provision of facilities

In the beginning of the term, I set up a WordPress blog system for hosting all the upcoming articles in the course, and published blog pages to assist students to get familiar with the environment and submit well-organized articles. Systems were also set up for students to sign up for presentations, and to give ratings.

3.2. Students' role on initiating learning

To begin with, students were given a list of suggested topics with guiding questions, in five categories balancing the coverage of social connection and practical skills:

- Social issues
- Hot topics in IT
- Computer Science basics
- Technology company studies
- Career of Computer Science/Engineering

The students could freely choose their partner, and the presentation schedule through the term, as 176 students in the class would contribute to almost 90 groups, i.e. 900 minutes of presentation hours in class to be spread through the whole term. They could also further customize or focus the presentation topics to suit their own interest or expectation. During the presentation, students were required to allocate a few minutes to conduct a self-designed game or interaction with the class, that was relevant to their presentation.

After the presentation, students would extend their talk into a blog article for further elaboration, and perhaps to present statistics they got from surveys during class interaction. They also needed to highlight important points in their article which provides hints for the MC question they made.

3.3. Students' role on participation and reflection

During class, students were requested to enjoy the presentations from their fellow classmates, to give ratings, and naturally to participate in class interactions.

In the blog system, where students can see new articles from classmates every week, they were required to make substantial comments in articles through the term. A sample can be seen in Figure 1. Article authors could join the discussion, and were encouraged to learn from their peers, and continuously polish and improve their articles until the end of the term.

3.4. Teacher's role on guidance

Short lectures on relevant topics were provided ahead of the student presentations, with reference from the course textbook, *A Gift of Fire: Social, Legal, and Ethical Issues for Computing* [4].

Students were recommended to ask for advice since the preparation stage. After presentation sessions in class, I tried to give quick comments or errata of the ideas covered. Besides technical matters, the course further included

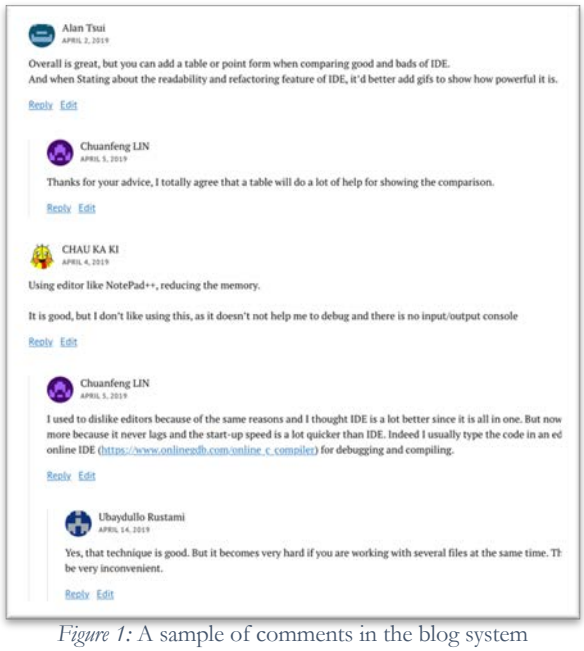

Figure 1: A sample of comments in the blog system

communication issues, such as ways to structure ideas in presentations and articles, or even linguistic style, which are vital for professional correspondence.

3.5. Other course components

Besides the lectures and student presentations, there were other components in the course to offer an extensive experience.

3.5.1. Industrial Visits and Invited Talks

Sitting in the same lecture hall for three consecutive hours could be a pain for most students. With the help of multiple parties, I organized visits to technology companies in Hong Kong and Shenzhen for students to have a better idea of the industry. Some of the visits were held during class hours, and some were arranged on weekends. Guests were invited to deliver talk in the classroom in case visits were not feasible for them. Some were our alumni and students felt more engaged seeing their possible future. Students needed to write two visit reports to these events into the blog.

3.5.2. Collaboration Project on GitHub

One practical training in the course was on the versioning and project management platform GitHub, which is highly popular among engineers and developers. Students were given tasks and they needed to work with a large team of randomly assigned members.

4. Results

According to the *Course and Teaching Evaluation*, the adjusted means for Q12 "Appropriate workload amount" was 3.35, and for Q17 "Satisfaction with course" was 3.77.

4.1. My own observation

Without participation requirements, roughly two thirds of the class showed up regularly. Students were readily aroused by interaction games in the presentations, or excited by bad jokes of the student presenters. They were overall supportive to their friends presenting, and also curious in talks by guests.

In the blog, there were more varieties of student characters. Some students were engaged in sharing ideas, even if occasionally with a slight language barrier. That they being active in posting appealing articles and thoughtful comments undoubtedly encouraged others to participate and reflect in a synergic manner.

4.2. Exit survey

An unofficial survey was done after the course for students' feedback. There were 66 responses from the 176 students within the duration of April 23 to May 29, 2019. Two of the questions that students must answer were:

- Q5: "Does this course fulfill your expectation?"

  Likert scale from 0 (It's worse than I thought) to 10 (It's better than I thought)

- Q6: "How much effort did you spend for this 3-credit course? Please compare the amount of work with other CSCI 3-credit courses."

  Likert scale from 0 (No effort at all) to 10 (More effort than expected)

The statistics are shown in Table 3.

Question	**Q5** *"Fulfilment"*	**Q6** *"Efforts"*
Minimum	0	0
Maximum	10	10
Average	4.76	7.76
Median	5	8
Mode	7	10
Standard deviation	2.81	2.19

Table 3: Statistics for fulfilment and efforts of students

It can be seen that a large number of students considered a high workload in the course, which came from both ends of Q5. Two questions were made to understand the prejudice of students about the course. Two samples from the low end are shown in Table 2, and two from the high end in Table 1.

In general, 25 students reported enjoying "visits" the most, and for what they hated most are mainly "presentations", "workload", and "article". Looking at the results of a question "*Does the course help you on these aspects?*" in Figure 2, many students have gained something from the course.

Q3: Are there any comments you heard about this course BEFORE this semester?	**Q4: What are your comments about this course AFTER finishing this semester?**	**Q5**	**Q6**
This course is useless	This course is not useful and have too much work to do.	1	1
Easy course	Rubbish and wasting time	0	10

Table 2: Samples of responses on impression before and after course of students rating low for fulfilment

Q3: Are there any comments you heard about this course BEFORE this semester?	**Q4: What are your comments about this course AFTER finishing this semester?**	**Q5**	**Q6**
None at all. No one talks about this course. Just knew that had to take this course as a major required course .	Was a very well structured course. Learnt many new things, things I wouldn't have learnt otherwise. Got the opportunity to present in front of a large class. Great experience. The course material preparation was on point.	10	8
Yes that it was pretty chill for them earlier but now it's has changed with a lot of new additions to the course	I think it's nice. Like it is important to learn something in a course and that is exactly what I did. Plus I liked the chill vibe of the course so it was good overall	9	9

Table 1: Samples of responses on impression before and after course of students rating high for fulfilment

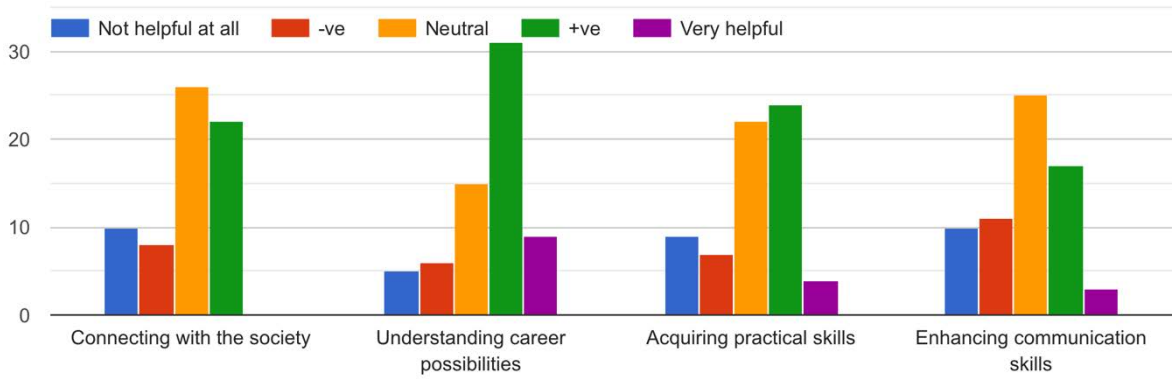

Figure 2: Statistics on course outcomes

5. Discussion

Since the majority of "course materials" that student saw were presentation slides, blog articles, and comments by fellow students, it became an important yet uneasy task to ensure the quality. Often students delivered some contents without careful checking, resulting in biased or malformed arguments, or even misinformation. I had to immediately alert the class after presentations, and to leave appropriate comments in articles.

Yet, the student-led activities often came amazing. Although Kahoot-style games were commonplace and bored the audience, some groups came up with fascinating games, such as physical exercises which everyone standing up to learn about health hazards of IT practitioners. These were very rewarding moments since that could easily make it into students' impression.

6. Conclusion

Some ideas of blended learning and experiential learning were incorporated into our course to answer the question "*what can be done to engage the next students?*", for the non-technical materials in the technical environment. Students had to devise a presentation in class including interaction with audience, write articles on various topics, and discuss on the course blog. Some students appreciated about the new format and contents, yet many complained about the higher workload than expected.

7. Epilogue

In the second year of offering CSCI3250/3251 in 2019–20 Term 2, I had revised the assessment scheme and reduced the requirements on articles. In the Exit Survey I was able to collect 20 responses from 179 students during May 13 to June 11, 2020, with the statistics shown in Table 4.

When the same question on the course outcomes were asked, a similar trend is seen in Figure 3, despite the small percentage of responses received. This might sadly be due to the isolation of students from immediate involvement in class in an online-teaching semester.

Question	**Q5** "*Fulfilling*"	**Q6** "*Efforts*"
Minimum	3	3
Maximum	10	10
Average	6.85	5.25
Median	7	5
Mode	5	3
Standard deviation	1.96	2.28

Table 4: Statistics for fulfilment and efforts of students in 2020

According to the *Course and Teaching Evaluation* in 2020, the adjusted means for Q12 "*Appropriate workload amount*" was 4.81, and for Q17 "*Satisfaction with course*" was 4.94. Both are with an improvement of more than 1.

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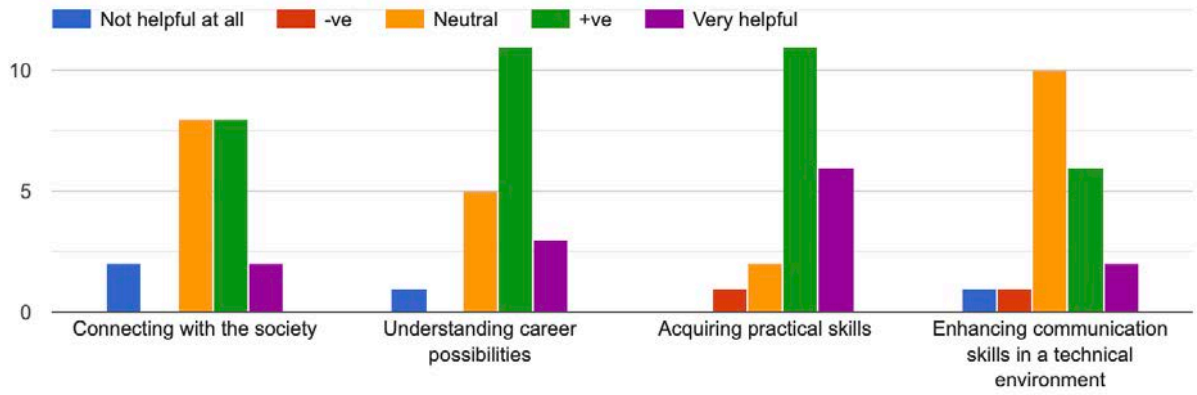

Figure 3: Statistics on course outcomes in 2020

P49: Virtual Field Trip Platform for Online Teaching-learning Enhancement: Yim Tin Tsai Island as a Site of Tourism Education

Presented by
Prof. Johnson Chung Shing CHAN, Department of Geography and Resource Management, The Chinese University of Hong Kong

Abstract
The COVID-19 pandemic has caused suspension of in-class lecturing and outdoor field trips. This issue largely affects the teaching-learning process of many tourism-related courses, which require field experience to enhance learning and development of students. To cope with such need for off-site field investigation, an interactive and sustainable virtual field trip platform is necessary for transforming the crisis of teaching-learning into an innovative opportunity for tourism education.
This project takes Yin Tin Tsai (YTT) in Sai Kung, Hong Kong as its site for a Virtual Reality (VR) and Augmented Reality (AR) interactive field trip platform. YTT has three different thematic features (the Catholic religion, Hakka culture and ecology) for resource revitalization and destination development. The platform allows students to conduct virtual trips to YTT through innovative features such as VR-based self-paced tours, attraction selection, e-learning of questions-and-answers, user-friendly sharing of visitor experience, and more importantly, a set of AR-driven features about the main attractions and history of YTT. This project is of high relevance to teaching-learning enhancement and will be constructive when the platform is utilized across UGC-funded tourism, geography, resource management and general education courses. The project integrates field trips, location-based study and VR/AR applications. Teachers are both lecturers to deliver knowledge and facilitators of interactive class or online discussions without any geographical, weather or resource constraints.

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Online Venue
Room A

Areas of Interest
Virtual Reality (VR)/ Augmented reality (AR) III

Title of article:
Virtual field trip platform for online teaching-learning enhancement: Yim Tin Tsai island as a site of tourism education

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Description of the author
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Abstract
The COVID-19 pandemic has caused suspension of in-class lecturing and outdoor field trips. This issue largely affects the teaching-learning process of many tourism-related courses, which require field experience to enhance learning and development of students. To cope with such need for off-site field investigation, an interactive and sustainable virtual field trip platform is necessary for transforming the crisis of teaching-learning into an innovative opportunity for tourism education. This project takes Yin Tin Tsai (YTT) in Sai Kung, Hong Kong as its site for a Virtual Reality (VR) and Augmented Reality (AR) interactive field trip platform. YTT has three different thematic features (the Catholic religion, Hakka culture and ecology) for resource revitalization and destination development. The platform allows students to conduct virtual trips to YTT through innovative features such as VR-based self-paced tours, attraction selection, e-learning of questions-and-answers, user-friendly sharing of visitor experience, and more importantly, a set of AR-driven features about the main attractions and history of YTT. This project is of high relevance to teaching-learning enhancement and will be constructive when the platform is utilized across UGC-funded tourism, geography, resource management and general education courses. The project integrates field trips, location-based study and VR/AR applications. Teachers are both lecturers to deliver knowledge and facilitators of interactive class or online discussions without any geographical, weather or resource constraints.

Keywords: *Augmented Reality (AR); e-Learning; Hong Kong; online field trip; tourism education in pandemic; Virtual Reality (VR)*

Introduction: Online Teaching and e-Learning in Tourism Education in the Pandemic Crisis

During the COVID-19 pandemic, human mobility has been severely restricted worldwide (Fang, Wang & Yang, 2020; Yang, Zhang, & Chen, 2020). Such mobility limitation has also been extended to education sector, which particularly influences subjects such as geography and tourism that often require practicums and field work experience to enrich the knowledge of the students (UNESCO, 2020). Due to the impact of the COVID-19 pandemic, many in-class face-to-face lecturing had to shift to online teaching, and most of the planned field trips were also cancelled (UNESCO, 2020). Online education therefore immediately becomes a significant trend for most of the institutions given an ongoing e-Learning development over the recent years (Davis & Singh, 2015; Jong, 2014). Many tourism educators have included outdoor fieldwork and field trips to enhance the learning experience (Jong, 2014; Leydon & Turner, 2013). The pandemic crisis thus provides an unexpected opportunity for both instructors and students to transform their educational norms and practices to break the physical constraints (Johnson & Aragon, 2003; Sigala, 2002, 2004; UNESCO, 2020; Yan, 2020).

Most field experiences were lost during the pandemic period, but instructors had also attempted to move at least a small part of the field trips to a combined mode of video, virtual and self-paced arrangements. Such combination of real-world and virtual experience was not uncommon in both tourism industry and destination management (Davis & Singh, 2015; Webster, 2016), and e-Learning (Azeiteiro et al., 2015; Huang, 2000; 2002; Schott, 2017; Weibel, Stricker & Wissmath, 2012).

Although online teaching or e-Learning might not satisfy the expectations of tourism practitioners and students (Cini, van der Merwe, & Saayman, 2015), the teaching mechanism must be changed and transformed to online platforms in such difficult time. Nevertheless, opportunities beyond classroom teaching could exist from the crisis because tourism education would often involve a great variety of both knowledge transfer and practical skill training. E-learning could be viewed and implemented to incorporate various teaching-learning activities that should not be constrained by time, resources, geographical settings and locations since tourism courses could cover a wide range of topics related to urban, cultural and heritage, community-based and nature-based topics and experiences (Kelner & Sanders, 2009; Ting & Cheng, 2017).

Online education could break the geographical limitations with the combination of multiple teaching-learning approaches, such as virtual reality (VR) (Crampton, 1999; Schott, 2017; Weibel et al., 2012), augmented reality (AR) (Dunleavy, Dede, & Mitchell, 2009), game-based learning and e-Learning modules to attain far-reaching advantages and benefits teaching-learning experience

enhancement (Azeiteiro et al., 2015; Cantoni, Kalbaska & Inversini, 2009; Mavridis, Katmada & Tsiatsos, 2017). The resultant instrument or platform can be more innovative and sustainable (Deale, 2015; Hales & Jennings, 2017).

A Virtual Field Trip Platform: Yim Tin Tsai (YTT) island in Hong Kong as a Site of Experience

Under the aforesaid academic background that calls for the special need for off-site field investigation, the aim of this project is to create an interactive and sustainable platform for virtual field experience and e-Learning. The project transforms the pandemic crisis to an opportunity for innovative tourism education. This paper introduces this virtual platform and its VR and AR functions to incorporate with online teaching-learning process. This virtual platform contains two key features, firstly, the VR tour covering various spots on the island, and secondly, an AR tool that presents some selected features and stories of the island. The combination of these two functions allow students to conduct self-paced site visit during our online teaching or at home.

YTT island is located in the eastern part of Hong Kong. It takes about 15 to 20 mins to reach the island by kaito, a small ferry, from the Sai Kung Public Pier. The YTT village has a history of over 300 years. The island and the village is unique in Hong Kong because it is the only place combining three different themes together, including Catholicism, Hakka culture and some nature-based or ecological resources. This village is the only place in Hong Kong that has such religious-cultural-natural integration (Su, 2018; Yau, 2016).

VR function – self-paced or coordinated virtual field experience

The VR platform contains a total of over 40 spots filmed on the island. These spots are visualized in 3D-images. Students can either choose to use web-based platform to see a 2D version. If the students have a pair of 3D-glasses or a VR device, you can install a designated mobile application on a smartphone and visualize everything in an immersive environment. The users can choose to follow the designed route of visit on the island, seeing different spots and attractions one-by-one. Alternatively, the students may click on the location map icon or scan through the images at the bottom part of the platform to choose a particular spot for a view, e.g., the salt pan area (Figure 1a). The spots include both outdoor environments and some indoor places such as the Heritage Centre or the popular St. Joseph's Chapel. In some locations, there are questions added for open discussion during online teaching or self-reflection by the students themselves (Figure 1b).

Figure 1a: VR of YTT – the salt plan area

Figure 1b: Pop-up question for discussion

AR function – highlights of special and unique features of the YTT island

An AR booklet in PDF format is created. Students can install a mobile application, and then scan the image on each page of the booklet (Figure 2a). Then, more information about a particular feature or theme will be provided. For instance, an online video about the past stories of the village lives (Figure 2b). We are now creating a 3D images for the chapel as well as the saltpan.

Figure 2a: The AR booklet

Figure 2b: Online video as part of the AR function

Discussion and Conclusion: Turning a Pandemic Crisis to Teaching-Learning Enhancement

This virtual field trip platform will be used not only in tourism education, but in different courses in geography, resource management, cultural studies, general education or other social science subjects. The platform introduced in this paper sets a good example of combining VR, AR functions with e-Learning. The role of instructors or teachers is important to facilitate students to use the platform wisely and interactively without any geographical, weather or resource constraints. It is a perfect time of provision in this pandemic period (UNESCO, 2020) although some fundamental advantages of face-to-face or in-class interactions are still irreplaceable (Ali & Ahmad, 2011; Bolliger, 2004). Student satisfaction is determined by more diversified factors (Dennen, Aubteen Darabi & Smith, 2007; Yukselturk & Yildirim, 2008), which may give a way for e-Learning and online teaching tools to initiate an educational breakthrough.

It is essential to let instructors to understand the changing pedagogy that online education is shifting from teaching-centred to learner-centred, which means focusing on student participation is more important than course content (Maumbe, 2014). The VR and AR functions are established not only to cope with the unavailability of face-to-face teaching and onsite field experience, but to allow instructors to learn to adapt to an progressive trend of e-Learning in the educational contents in tourism courses to prepare students for the ever-changing industry (Inui, Wheeler & Lankford, 2006; Zehrer & Mössenlechner, 2008).

Go beyond the shift of teaching-learning mode to education innovation

Tourism education covers many topical areas, such as tourism planning and management, tourism policy, sustainable tourism development and various forms of tourism products and themes, is advocated to utilize e-Learning approach and turn to online mode since these areas usually involve wider global consciousness and understanding of environmental and cultural diversity (Azeiteiro et al., 2015; Deale, 2015; Hales & Jennings, 2017; Jong, 2014).

Online education in tourism study allows students to benefit from knowledge acquisition (e.g. learning of fundamental concepts, underlying theories and applying models) (Kollmuss & Agyeman, 2002; Webster, 2016), attitudinal and perceptual changes (e.g. discussions about controversial topics and issues in tourist destinations) (Fatima, Khan & Goh, 2016; Mobley, Vagias & DeWard, 2010), as well as usability consideration (e.g. stimulation of learning and response interest, and simulation of real-world situations) (Chiao, Chen, & Huang, 2018; Fotiadis & Sigala, 2015). However, there is still much room for empirical evidence on how online education and e-Learning platform may support and improve the effectiveness and experience in teaching-learning process in tourism education (Mavridis et al., 2017). Further research can be conducted to understand the gap between instructors and students in face-to-face lecturing and online teaching (Semley, Huang & Dalton, 2016).

Under the “new” model of education, educators and students are expecting that similar online platforms and virtual experiences are necessary to enhance the teaching-learning process in tourism education. When “study from home” is becoming unavoidable in a world of uncertainty and fast-changing socio-political circumstances, more of such virtual and online platforms are regarded as sustainable to be applied across disciplines, courses and over a long period of teaching time (Hales & Jennings, 2017).

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P30: Online Assessment Strategies: Insights from Recent Studies

Presented by
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Abstract
Traditionally, tests/exams are key components to assess and monitor students' learning and academic progress. The standard pen-and-paper format is usually adopted to test students' understanding on the subject matter in proctored tests/exams. To ensure academic integrity and fairness, students are arranged in classrooms to complete the tests/exams in proctored environments to prevent cheating.

In view of the outbreak of COVID-19, the University recommended teachers to conduct online assessments. Based on these criteria, we revised our assessment schemes for our course, SBMS1432 Human Anatomy and Physiology II. It was a big challenge as changing the assessment format into an online mode involved a tremendous amount of effort to ensure the success of systemic computer technology approach when compared with traditional written assessment.

In our presentation, we will discuss and share our experiences about our assessment strategies, and how we managed to maintain academic integrity for the online assessments. There was a total of three multiple-choice question online tests/exams. We designed and conduced them in various formats, a) display all questions at a time, b) display questions one at a time, and c) randomize the order of questions/answers. Furthermore, we adopted three different combinations of invigilation methods, i) Blackboard with Zoom monitoring, ii) Lockdown Browser with Response Monitor plus Zoom monitoring, and iii) Lockdown Browser with Zoom monitoring.

To conclude, it is important to ensure a stable internet connection, provide clear and detailed instructions and guidelines to both students and invigilators with test trials in advance, and a smooth systemic invigilation process.

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Online Venue
Room B

Areas of Interest
Online Assessment

Short Communication

Challenges of Academic Integrity during COVID-19 Pandemic

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Abstract

Traditionally, tests and exams are key components in continuous assessment to assess and monitor students' learning and academic progress. The standard pen-and-paper format is usually adopted in order to test students' understanding and their knowledge on the subject matter in closed-book and proctored tests or exams. To ensure the academic integrity and fairness, all students are arranged in either classrooms or exam halls to complete the tests or exams. In such a proctored environment, cheating can be greatly prevented among students.

In view of the outbreak of COVID-19, the University recommended teachers to facilitate and conduct online assessments and to avoid face-to-face examinations. To assess our students based on these criteria, we have revised our assessment schemes for our course, SBMS1432 Human Anatomy and Physiology II, accordingly, and replaced all on-campus assessments with online assessments or e-assessments. It was a big challenge as changing the assessment format into an online mode involved a tremendous amount of work and effort putting together to ensure the success of the systemic computer technology approach when compared with the traditional written assessment.

Here we discuss our assessment strategies applied to our course, and how we managed to maintain the academic integrity for all the online assessments in the course. We also shared our experiences on the pros and cons of each of the settings and invigilation methods. There was a total of two multiple-choice question online tests and one online exam in this course. We designed and conduced these online assessments in various formats, which include a) display all questions at a time, b) display questions one at a time, and c) randomize the order of questions or answers. Furthermore, we adopted three different combinations of invigilation methods including i) Blackboard with Zoom monitoring, ii) Lockdown Browser with Response Monitor plus Zoom monitoring, and iii) Lockdown Browser with Zoom monitoring, respectively, and tested the feasibility and the effectiveness of each of these different combinations, so as to minimize the chance of cheating while ensuring that these online assessments could serve as preventive measures against the potential spreading of COVID-19.

To conclude, it is important to ensure a stable internet connection on both ends (examiners/invigilators and students), provide clear and detailed instructions and guidelines to both students and invigilators with test trials in advance, and a smooth systemic invigilation

process. These online assessments in our course were conducted effectively without any misconduct or bad behaviors of students.

Keywords: academic integrity, cheating, e-assessment, remote invigilation, Lockdown Browser, Response Monitor and Zoom Monitoring

Introduction

In view of the outbreak of COVID-19, the University recommended teachers to facilitate and conduct online assessments and to avoid face-to-face examinations. Traditionally, tests and examination are key components in continuous assessment to assess and monitor students' learning and academic progress (Taylor, 1994). The standard pen-and-paper format is usually adopted in order to test students' understanding and their knowledge on the subject matter in closed-book and proctored tests, assessments or examinations as a reflection of their learning progress in terms of grading (Maclellan, 2001). To ensure academic integrity and fairness, all students are arranged in either classrooms or exam halls to complete the tests or exams with physical invigilation. However, we had not had prior experiences in the set up and facilitation of full e-assessment and remote invigilation in this course in the past.

Regarding academic integrity, students are required to be educated and commit its value including honesty, trust, fairness, respect, and responsibility as whole person development for the intellectual honesty and competency of their career paths in the community (Fundamental, 1999). Even though students entirely understand the consequences of cheating and any other forms of unethical misconduct which may result in punishment and penalties, they may choose to commit such academic dishonesty especially cheating in tests or exam during their university life. Cheating remains a common problem in schools and universities including the problem of authentication (O'Malley & Roberts, 2012). Those students involved might think that cheating would not be caught easily and they might have experienced a lot of stress in study and choose to commit such misconduct in order to get a passing grade (Franklyn-Stokes & Newstead, 1995). Using computer technology for e-assessment in such a proctored environment, teachers must alter the assessment protocol to prevent students from any violation of academic integrity, i.e. the cheating behavior, to maintain the quality of education in our University (Buzzetto-More & Alade, 2006).

To assess our students based on the criteria recommended by the University, we revised our assessment schemes for our course, SBMS1432 Human Anatomy and Physiology II, accordingly, and replaced all on-campus assessments with online assessments. It was a big challenge as changing the assessment format into an online mode involved a tremendous amount of work and effort putting together to ensure the success of the systemic computer technology approach when compared with the traditional written assessment. We investigated on the feasibility and effectiveness of the revised assessment methods and how to maintain the academic integrity for the online assessments in the course, SBMS1432, Human Anatomy and Physiology II with a class size of about 70 students.

Methodology

During the period from mid-February to mid-May in the second term, we set a total of two multiple-choice question online tests and one online examination in this course. We designed and conduced these online assessments in various formats using the Blackboard platform, which include:

a) display all questions at a time,
b) display questions one at a time (trial test only), and
c) randomize the order of questions or answers and display all questions at a time.

Furthermore, we adopted three different combinations of remote invigilation methods including:

i) Blackboard with Zoom monitoring,
ii) Lockdown Browser with Response Monitor plus Zoom monitoring, and
iii) Lockdown Browser with Zoom monitoring, respectively

Results

We analyzed the various computer-based test formats and different combinations of remote invigilation methods of the online assessments and a summary is listed in Table 1 below.

Table 1: Comments and teachers' feedback for the display of the online tests and exams via Blackboard and various remote invigilation methods.

e-Assessment Display Format	Comments and Feedback	Remote Invigilation Method	Comments and Feedback
1. Display all questions at a time	e-Assessment process was conducted smoothly with good WiFi connection at both the invigilators' and examiners' side and the students' side; Most students with good WiFi support completed the online test successfully, but a couple of students with poor WiFi connection showed "freeze" screens and cheating behaviors were therefore suspected.	Blackboard with Zoom monitoring	Synchronous remote invigilation; Teachers may give warnings to those students who are suspicious during the online test in the corresponding breakout rooms in Zoom meeting and invigilation can be conducted via webcam; Suspected cases were resolved with the help and support from ITSC as the students involved were proven to have unstable network connection during the time of "freeze" screens based on the data and analyses provided by ITSC.

2.	Display questions one at a time (Trial test only)	e-Assessment process might have problems (e.g. "freeze" screens) when WiFi connection was poor.	Lockdown Browser with Response Monitor	Asynchronous remote invigilation; Response Monitor could alert teachers by "flagging" those suspected cases and classifying them as high, medium and low suspicious levels; A few suspected cases were detected and further investigated; Teachers could investigate the cases by watching the videos that captured students' face and environments.
3.	Display all questions at a time	e-Assessment process was conducted smoothly with good WiFi connection at both the invigilators' and examiners' side and the students' side; Most students with good WiFi support completed the online test successfully.	Lockdown Browser with Response Monitor plus Zoom monitoring	Synchronous remote invigilation; Teachers may also give warnings to those students who are suspicious during the online test in the corresponding breakout rooms in Zoom meeting and invigilation can be additionally conducted via webcam; A few students had problems with Response Monitor (e.g. failed to be detected by the camera or failed to complete the environment check process and thus were unable to enter the test) and an alternative invigilation method was arranged for them with Zoom monitoring; No cheating or suspected cases observed.
4.	Randomize the order of questions or answers and display all questions at a time	e-Assessment process was conducted smoothly with good WiFi connection at both the invigilators' and examiners' side and the students' side; All students completed the online exam successfully.	Lockdown Browser with Zoom monitoring	Synchronous remote invigilation; Teachers may give warnings to those students who are suspicious during the online test in the corresponding breakout rooms in Zoom meeting and invigilation can be conducted via webcam; No cheating or suspected cases observed.

Discussion

Due to the current COVID-19 pandemic situation with the restriction of social distancing, the online assessments must be conducted to replace face-to-face examinations till the end of Term 2. However, a number of research reported that students conducted cheating, plagiarized website content, or sought illegal help in the absence of a secured and validated invigilation system (Apampa, Wills, & Argles, 2010). Therefore, we investigated whether the combination of the video conferencing system (e.g. Zoom meeting), the Lockdown Browser system (e.g. Response Lockdown Browser) and/or the biometric system (e.g. Response Monitor) could be arranged in order to provide a secured and proctored environment for the online assessments in this course.

After having tested and analyzed the feasibility and the effectiveness of each of these formats and different combinations of invigilation methods of the online assessments, we found that there were pros and cons in any of these methods as discussed in Table 2 and Table 3.

Table 2: Comparing the pros and cons of various formats displayed in the online assessments:

Assessment Display Formats	Pros	Cons
1. Display all questions at a time	Allow students to go back easily to review and modify their answers.	Students may capture all questions and save for future use or any other purposes.
2. Display questions one at a time (Trial test only)	Can prevent students to capture all questions for future use or any other purposes.	Students cannot go back easily (or are prohibited) to review and modify their answers.
3. Randomize the order of questions or answers and display all questions at a time	Can prevent students to share their answers with one another.	Teachers may need time and/or have difficulties in tracking the questions or answers when students have questions or problems.

Table 3: Comparing the pros and cons of different combinations of invigilation methods of the online assessments:

Invigilation Methods	Pros	Cons
1. Blackboard with Zoom Monitoring	Invigilators may give warnings to those students who are suspicious during the online test in the corresponding breakout rooms in Zoom meeting and invigilation can be conducted via webcam.	Students may surf other browsers and contents in other computer folders during the online test; Two teachers and one administrative staff as invigilators only – one in each of the breakout rooms in Zoom. May need extra support if problems arise.

2.	Lockdown Browser with Response Monitor (Trial test only)	Students cannot surf other browsers or contents in computer folders by implementing the Lockdown Browser in the online test; Any suspected students will receive warnings if he/she has some head/face movements while performing the online test as Response Monitor can detect any suspicious movements and the test processes are recorded down in videos and automatically classified as high, medium and low risk levels; No remote invigilation is required.	The test may be interrupted if the internet is unstable; Students may be blocked from attempting the online assessment if they cannot fulfill the pre-tasks (e.g. environment check, whole face detection and photo taking, etc.) required by the Response Monitor.
3.	Lockdown Browser with Response Monitor plus Zoom monitoring	Students cannot surf other browsers or contents in computer folders by implementing the Lockdown Browser; Students are divided into small groups in breakout rooms in Zoom meeting and invigilation can be conducted via webcam; Any suspected student will be given warnings if he/she has some head/face movements while performing the online test as Response Monitor can detect any suspicious movements and the test processes are recorded down in videos and automatically classified as high, medium and low risk levels.	The test can be interrupted if the internet is unstable; Students may be interrupted by other students who use their microphones to communicate with the invigilators via Zoom when they encounter problems in the Lockdown Browser; Students may be blocked from attempting the online assessment if they cannot fulfill the pre-tasks (e.g. environment check, whole face detection and photo taking, etc.) required by the Response Monitor; Two teachers and one administrative staff as invigilators only – one in each of the breakout rooms in Zoom. May need extra support if problems arise.
4.	Lockdown Browser with Zoom monitoring	Students are divided into small groups in the breakout rooms in Zoom meeting and invigilation can be conducted via webcam; Students cannot surf other browsers or contents in computer folders by using the Lockdown Browser; Three teachers and three administrative staffs as invigilators and examiners – one of each in each of the breakout rooms in Zoom with sufficient support throughout the online exam.	Students are instructed to use “Chat Room” function only to communicate with invigilators to avoid disturbance of other students during the online exam, but an emergency hotline will be given in case problems arise.

Therefore, there is indeed no "magic" solutions to ensure the academic integrity of students. On the one hand, we trust our students. On the other hand, we ought to provide fair assessments and ensure academic integrity. We could only do our best to minimize the chance of cheating while ensuring that these online assessments could serve as appropriate assessments for our students and preventive measures against the potential spreading of COVID-19.

Conclusion

To conclude, it is important to ensure a stable internet connection on both ends (examiners/invigilators and students), provide clear and detailed instructions and guidelines to both students and invigilators with test trials in advance, and a smooth systemic invigilation process. These online assessments in our course were conducted effectively without any misconduct or bad behaviors of students.

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P38: Teaching and Learning with Zoom: An Exploratory Study

Presented by
Prof. Lawal Mohammed MARAFA, Department of Geography and Resource Management, The Chinese University of Hong Kong

Abstract
The CUHK commenced the online teaching and learning using the zoom platform as a stopgap initiative as a result of the Covid-19 pandemic. The university had earlier invested heavily on ICT in teaching and learning and have been involved in several Learning Management Systems (LMS) over the years. Such systems include the WebCT, Moodle and Blackboard as pseudo online/interactive platforms and have successfully developed the Ureply platform to enhance teaching and learning. The LMS along with the introduction of zoom, provide opportunities for communication, content delivery and assessment.
Until now, the university has perfected the use of the LMS that exposes students and instructors to the role of ICT as an elearning platform. The challenge was on how can the university promote a community of learners in an online platform like zoom? The benefits of a LMS that promotes elearning is the ability of learners and instructors to interact by chat, video and others to establish an effective process in teaching and learning. The study primarily focus on the use of zoom to engage students, deliver contents and materials and subsequently assess performance of students according to course(s) requirements. Three courses are used in this preliminary investigation. Given that the shift to the zoom platform was effected after classes were conducted on the traditional face-to-face format, how does it affect the student's performance? How effective were the online practices in teaching and learning? What are some examples of effective teaching and learning practices? The study presents an exploratory investigation designed to identify some advantages and disadvantages of teaching and learning with zoom essentially from the perspectives of students.

View **Poster**
View **Paper**

Online Venue
Room B

Areas of Interest
Online Teaching II

Teaching and Learning with zoom: an exploratory study

Marafa, LM and Chan, CS

Department of Geography and Resource Management

Abstract

The CUHK commenced the online teaching and learning using the zoom platform as a stopgap initiative as a result of the Covid-19 pandemic. The university had earlier invested heavily on ICT in teaching and learning and have been involved in several Learning Management Systems (LMS) over the years. Such systems include the WebCT, Moodle and Blackboard as pseudo online/interactive platforms and have successfully developed the Ureply platform to enhance teaching and learning. The LMS along with the introduction of zoom, provide opportunities for communication, content delivery and assessment.

Until now, the university has perfected the use of the LMS that exposes students and instructors to the role of ICT as an elearning platform. The challenge was on how can the university promote a community of learners in an online platform like zoom? The benefits of a LMS that promotes elearning is the ability of learners and instructors to interact by chat, video and others to establish an effective process in teaching and learning. The study primarily focuses on the use of zoom to engage students, deliver contents and materials and subsequently assess performance of students according to course(s) requirements. Three courses are used in this preliminary investigation. Given that the shift to the zoom platform was effected after classes were conducted on the traditional face-to-face format, how does it affect the student's performance? How effective were the online practices in teaching and learning? What are some examples of effective teaching and learning practices? The study presents an exploratory investigation designed to identify some advantages and disadvantages of teaching and learning with zoom essentially from the perspectives of students.

Introduction

In most universities, teaching and learning is conducted in a face – to – face format. As the Information and Communications Technology (ICT) developed and distance education provided a viable alternative, online teaching and learning has become a common feature of learning environment across all setups of education (Diaz and Entonado, 2009; Roddy *et al.,* 2017). This has been called Open and Distant Learning (ODL) and where technology is involved has become known as elearning (Qayyum and Zawacki-Richter, 2018). As teaching and learning evolved, the use of technology has brought various reactions from students and instructors (Montrieux *et al.,* 2015). There is the need to understand the reactions of the main users of the zoom technology in teaching and learning.

There are many new technologies that are cost effective, readily available and provide a greater level of access to students, making the internet-supported teaching and learning the most important innovation in education (Beaudoin, 2015). These technologies also allow for more flexible teaching and learning approaches and enhances the educational opportunities for learners. It is also necessary to further understand the educational potential of various types of technologies used for teaching and learning (Jamil, 2011).

The advent of ICT's in education – offers both opportunities and challenges for administrators, teachers and students as well. Specifically, on the CUHK campus, where the traditional teaching and learning format has been face to face, the university, the instructors and the students have been exposed to various elearning tools (Lam *et al.,* 2011) like the WebCT, Moodle, Blackboard, Ureply, etc. But in the second term of the 2019/2020 academic year, the university started to use the Zoom online platform for teaching and learning following the fear of the covid pandemic.

The study was conceptualized to explore the strategies and conduct of online teaching and learning so that we can understand how to use the technology better and enhance the learning processes as it

continues to become commonplace. Given the opportunity of involvement and the challenges that everyone faced in the academic community, this exploratory research is designed to study the challenges and opportunities offered by zoom in teaching and learning.

The overall aim of this study is to investigate how the university can promote a community of learners in an online platform like zoom. Specifically, the objectives of the study involve the exploration of the students' general attitudes to e-learning on zoom and understand how it affects student's performance. How effective were the online practices in teaching and learning and what are some examples of effective teaching and learning practices if any?

Literature Review and Background

The context of the use of ICT into teaching and learning has already appeared at different levels of education (Diaz and Entonado, 2009; Gibson, 2001). This phenomenon has changed the nature of traditional teaching and learning and has continued to facilitate the growth of elearning in various formats (Roddy *et al.,* 2017). With the increasingly rising trend of the use of ICT in educational systems, more and more e-learning platforms are becoming available at the disposal of instructors and learners. As many of such platforms become available worldwide, it is changing the way teaching and learning is conducted especially on university campuses.

Historically, elearning has facilitated a learning culture and environment that incorporated access to course materials in a repository, flexibility, communications and the provision of other student services (Popovici and Mironov, 2011). As the technology further developed, some are used to enhance further collaboration between and among teachers and learners, some are easily used for project-based learning through the use of blogs, portfolios, networking and generally providing a social space in lieu of the face-to-face environment, making learning flexible (Qayyum and Zawacki-Richter, 2018; Mannon, 2019). Other scholars have posited that the teaching and learning tools provide the possibility to engage in collaborative learning, multitasking and rapid access to information (Roddy *et al.,* 2017).

Already as has been adopted by many educational institutions in a pseudo-online teaching framework, the CUHK encourages the availability of access to basic course information online; such as the syllabus, resource lists, and instructor's basic information that is useful for teaching and learning. As this continues to be the case and as the zoom platform became available for teaching and learning, it is important to have understanding of the tools available, and the extent at which the instructor and the students are able to embrace this aspect of pseudo-distant learning that the technology provides. In all levels of education, technology has dramatically changed the look of the 21st century learners and indeed the teachers (Christensen**, 2002**). This is increasingly evidenced by the development in computers, hand – held devices, mobile and smart technologies that proliferate the campuses and homes (Keengwe and Bhargava, 2014).

The use of the ICT has further underscored the gradual shift from the traditional teacher – centred pedagogy to learner – centred pedagogy (Omer, 2015). In this context, the learner – centred approaches allow the person to identify teaching approaches that will include students' needs, unravel their abilities and acknowledge their learning styles and learning activities (Christensen, 2002). Learning Management System (LMS) are widely available and are directly associated with e-learning platforms (Chaubey and Battacharya, 2015). They are mostly specialized online platforms that support e-learning.

In most cases, LMSs are software applications that comprise a suite of tools for learning and teaching online (Cavusa and Momania 2009). Some of the widely known LMSs are the WebCT, Blackboard, Moodle, and others some of which have been adopted on the CUHK campus. In conventional educational settings, online-learning management systems can help to improve the speed and effectiveness of the educational processes, communication among learners, and also staff and students (Latchen, 2018). In this study, we investigate the use of the zoom LMS and assess student's attitude and perception towards the LMS and elearning.

The Zoom Background

Within a short period, regular face-to-face meeting and teaching were replaced with video conference-based online zoom platform. In no time, the zoom as n LMS became extremely popular for its simple to use feature resulting from low network bandwith requirement (Mohanty and Yaqub, 2020). The idea is to investigate and authenticate the notion that the zoom technology is innovative and creative and could inspire other traditional face – to – face instructors to contemplate it's use in pedagogy as well as in assessment and feedback processes (Brainard and Watson, 2020). In this case, it has to be in such a way that the methods employed (in zoom) are constructively aligned with assessment and feedback.

The overall purpose is to investigate/evaluate strategies for online (zoom) teaching and learning and identify ways in which the technology can be used successfully. Most online technologies (and especially zoom) allows instructors and students to participate in teaching and learning at a time and place that is convenient to them. In this experience and with the advancement of the ICT and the advances in Web 1, 2.0 and beyond, the move from face to face in teaching and learning has enabled instructors and learners to assume different roles as they identify their teaching and learning spaces, impacted by the technological tool that they have access to. The adaptation of the online teaching and learning challenges the expectations of both instructors and learners. In this case, although initially the curriculum was designed on the face – to – face format, the replication that ensued when the online (zoom) was adopted benefitted from the dynamic nature of the teaching and learning environment.

Methods

This study, was conducted specifically on the students of the CUHK. The survey was conducted online and responses were requested from students that took three courses that were first started on face-to-face basis and switched to online format using the zoom platform. Course one is a UGE course with 61 registered students. Course two is a normal departmental course with 55 registered students while course three is a postgraduate course of the taught master programme with 30 registered. Generally, the survey was designed to investigate the effectiveness of the zoom platform on teaching and learning. It was also designed to understand the advantages and disadvantages of the Zoom.

The questionnaires were also designed to identify what the students like and dislike in the online learning experiences and decipher how the online interactions experienced by the students compare to their traditional classroom experiences. Specifically, the study investigated essentially the perceptions, experiences and attitudes of the students who participated in the courses. In addition to the questionnaires, open ended questions were also asked to allow the students to provided free flow responses without the constraint of a choice on scale. Anonymity of the participants was maintained throughout the study. The data was collated and analysed using the SPSS software.

Because of the limited amount of data, this research considered numerous issues related to data handling and analysis. In addition to descriptive statistics, EFA was undertaken to determine the structure of the student's response. Specifically, Mann-Whitney U test was used to compare differences between groups (gender and postgraduate and undergraduate student cohorts).

EFA was also performed to explore how many factors are present and what factors are correlated and what observable variables appear to best measure the factors (Gignac, 2009). The study further identified Kaiser-Meyer-Olkin (KMO) value, Bartlett's sphericity value, factor loading with eigenvalue. For scholars, an overall value of factor loading for each item over 0.50 was significant to confirm the meaningfulness of the questionnaire (Flora and Curran, 2004).

Results

Although this is an exploratory research, it has explored partially, some research questions of the project and present here some preliminary analysis. The online questionnaire was made available to about 146

students of the three courses that they have taken. The response rate was about 25%. The respondents were 20 undergraduate and 15 postgraduate students representing 57.1% and 42.9% respectively. In an attempt to depict the student's perception, experience and attitude of learning on zoom, a number of statements were asked in which the students responded on the 1 – 6, point Likert scale. Generally, with a median of 5, it appears that the students on the whole like the functions of the zoom in the learning experience. However, they still expect to meet the instructors and classmates in a face-to-face format rather than the zoom. Fig. 1 shows a boxplot of the students learning experience on each statement.

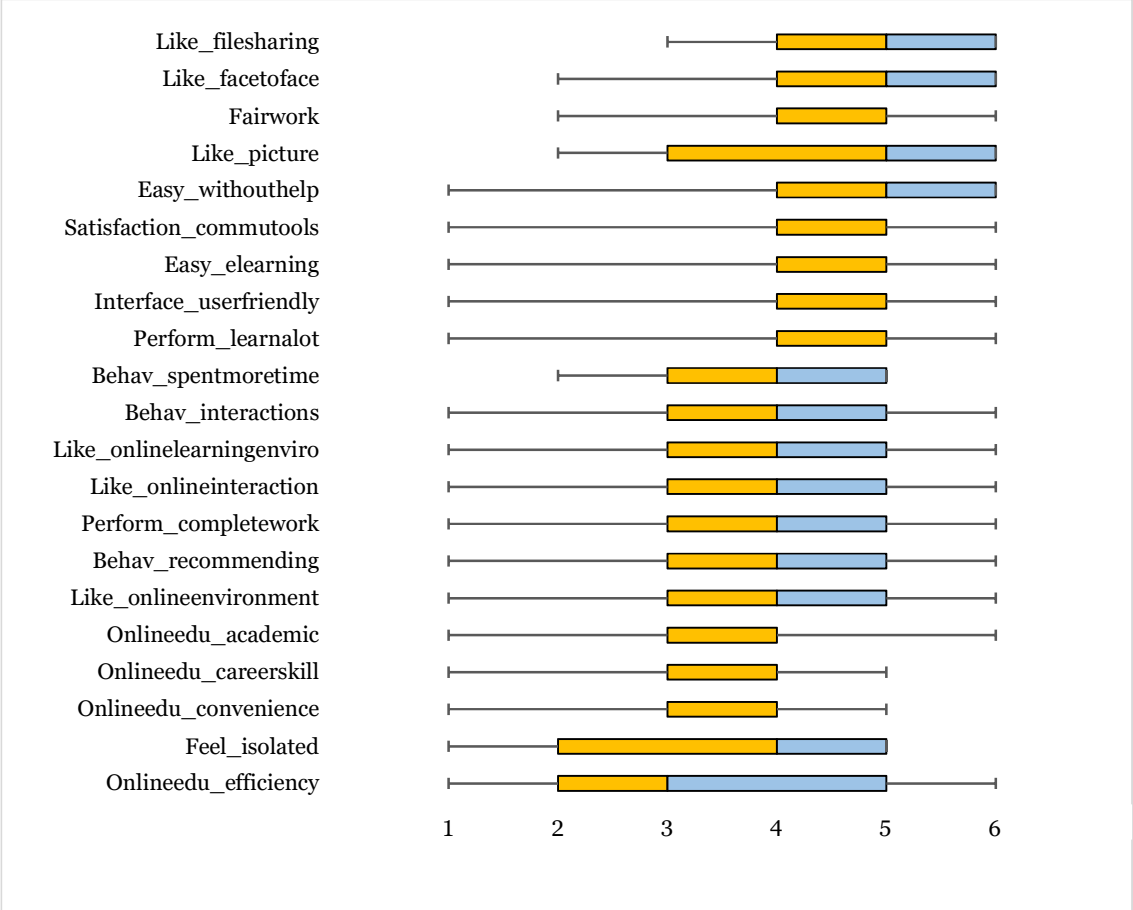

Figure 1: Boxplot of the student's learning experience

The statistical comparison of the mean was conducted by using the Mann-Whitney U test in response to the issue of zoom online learning with Gender. It was asked whether the students were satisfied with the learning experience on the whole. Some specific questions like whether the student "feel isolated and lonely" as a result of the online class were asked. The Mann-Whitney U test indicated that the agreement level on "Overall, are you satisfied with learning experience on Zoom" has no significant difference between female students (Mdn = 20) and male students (Mdn = 15), U = 81.5, p = .766. Detailed responses of some other questions are indicated in Table 1.

Table 1: Medians of statements with significant differences

Statements	Median	
	Undergraduate	Postgraduate
"*I spent more time working on this course than my other courses*"	3.5 ("Neutral")	5 (Agree)
"*I would rather meet my instructors and classmates face-to-face rather than on Zoom*"	5 (Agree)	6 (Highly agree)
"*I feel isolated and lonely as a result of the Zoom class*"	2 (Disagree)	4 (Slightly agree)
"*Online education would allow me to do more work in less time*"	4 (Slightly agree)	3(Slightly disagree)

Given that there is some acceptance of "no significant differences" in the responses, the study undertook a factor analysis to understand the variable relationships. Exploratory factor analysis (EFA) was undertaken to uncover any possible structure of the relationships between the variables studied from the questionnaire (Gignac, 2009). The analysis was performed using the Maximum Likelihood method of extraction. Bartlett's test of sphericity (χ 2 (210) = 556.297, $p<0.001$) was significant, indicating that using factor analysis on the data set was appropriate. The Kaiser-Meyer-Olkin measure of sampling adequacy similarly indicated that the strength of the relationships among variables was moderately high (KMO = 0.658), meaning that the analysis was acceptable. Consequently, Oblimin rotation was performed since factors were expected to be correlated, resulting in a pattern matrix (Figure 2). Four factors are obtained as a result. These factors are "Preference of online education", "Convenience", "Functionality", "Learning outcomes" with eigenvalues greater than one. 67.726% of variance were explained by the four factors.

Pattern Matrix[a]

	Factor			
	1	2	3	4
Onlineedu_convenience	1.063			
Onlineedu_efficiency	.762			
Onlineedu_academic	.560			
Onlineedu_careerskill	.539			
Easy_elearning		.999		
Easy_withouthelp		.638		
Like_onlinelearningenvir o			.818	
Like_onlineinteraction			.736	
Behav_recommending			.659	
Like_onlineenvironment			.612	
Like_filesharing			.591	
Feel_isolated			-.418	
Interface_userfriendly			.412	
Satisfaction_commutools				
Perform_completework				
Perform_learnalot				.805
Fairwork				.743
Behav_spentmoretime				.530
Like_facetoface	-.408			.484
Behav_interactions				.482
Like_picture				

Extraction Method: Maximum Likelihood.
Rotation Method: Oblimin with Kaiser Normalization.

a. Rotation converged in 13 iterations.

Figure 2: EFA pattern matrix

Discussions and Implications

Although the zoom is new as LMS in teaching and learning, the students generally liked the functions it presents for their learning although they still expect and possibly like to meet with instructors and classmates in a face-to-face format rather than solely on zoom. While the PG students similarly prefer to meet both teachers and classmates face-to-face, they however spent more time and partly isolated, and considered the zoom platform as less efficient. In this study, the female cohort of students tended to feel more isolated as a result than their male counterparts. This is of interest as even with the various functions of chat and breakout sessions on zoom and the flexible aspect of working at home or elsewhere that the zoom provides, students develop some sense of isolation.

This study through the use of factor analysis, have identified four factors in the zoom learning experience. These factors are: “preference of online experience”, “convenience”, “functionality” and learning “outcomes”. As a whole however, the students slightly disagree with the notion that the online education on zoom is efficient showing slight dissatisfaction in both the postgraduate and undergraduate groups. Given that this is an exploratory study with very little sample size, there is the need to further

seek for more samples so that an accurate measuring tool for zoom learning experience can be developed. Using zoom for the course was "acceptable" to students as it was convenient to manage school, work, family and social activities. As part of the curriculum required working in groups (Field studies), it created a sort of a hybrid allowing students to work together online and provide a way to also meet and work face to face on their assignment. The tasks assigned therefore, provided opportunities for social presence. This together with the requirement to present contents to the entire class created a further chance for teacher – student presence and student interactions with teachers and peers.

In this age of internet availability, with a social media presence and activities, students engage much of their time in day – to – day writing in online profiles, blog posts, content sharing, e-wom, and include all aspects of social media presence (Mannon, 2019. Some indeed, bring these skills and dedication to online classes. In order to extract the best of these skills and commitments, the instructor must design tasks that will engage students in meaningful learning activities allowing them to interact with others in their cohorts and in the class.

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