TEACHING AND LEARNING INNOVATION

EXPO 2014

www.cuhk.edu.hk/elearning/expo

15 December 2014
8:45am - 4:00pm
Lecture Theatre 6, 1st Floor,
Lee Shau Kee Building (LSK),
Central Campus, CUHK

15-19 December 2014
Follow-up Poster Exhibition
1st Floor, Lee Shau Kee Building (LSK)

Teaching
Trendy
Design
Innovation
Enhance
Creativity
Learning
Technology

Organisers:
eLearning Service@CU
http://www.cuhk.edu.hk/eLearning
A joint project of ITSC and CLEAR.

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Message form the Vice-Chancellor

Joseph J Y Sung

Vice-Chancellor and President
The Chinese University of Hong Kong

Our society constantly changes and what and how we can equip students through university education thus require changes and upgrade in order to meet new needs. The new demands and the new environmental changes call for our revisits of teaching and learning strategies regularly - among them may include the use of technology and engaging students in active and constructive learning activities. Teaching excellence also calls for a practice of continuous improvement through reflections and evaluations.

This expo serves as a platform for teachers to share innovative teaching and learning ideas and experiences. The sharing no doubt will promote good practice and keep teachers abreast of the latest educational framework, technologies and methodologies. I am grateful to all of our colleagues that they are receptive to new ideas and are willing to derive and apply new teaching strategies for the benefits of students. Throughout the years I noticed that the scale of the Expo has been growing. It impresses me that many of us realise the benefits of sharing and communications in achieving teaching and learning excellence. The ideas and authentic experiences of our colleagues is a valuable treasure for all of us.

In the Expo this year, teachers who have obtained teaching excellence awards are to share their experiences in the keynote sessions. There will also be a special "Student Voice" section in which a group of students will cast their views on how eLearning could be used or not used in the University from the students' perspective.

On behalf of The Chinese University of Hong Kong, I would like to express a warm welcome to all of you. I wish the Expo in this year a big success.

Message form the Pro-Vice-Chancellor

Professor Kit-Tai Hau

Pro-Vice-Chancellor / Vice-President
Professor of Educational Psychology
The Chinese University of Hong Kong

Learning is a lifelong journey, while teacher can be a guide. I'm glad to see CLEAR and ITSC organise the Teaching and Learning Innovation Expo every year gathering education professionals from different academic institutions to exchange pedagogical ideas. Going into its eighth year, the Expo effectively forms a community connecting CUHK teachers in different disciplines and even to a certain extent facilitates knowledge transfer across academia in Hong Kong.

Experience is the foundation of innovation. It is observable that there were several big changes in the higher education sector in recent years, including the curriculum reform and the increasing usage of technology in class. To assure sustainable development, it is always important to review and to share successful experience for the new possibilities in the future. The Expo will be an ideal platform to disseminate distinctive projects and innovative strategies that contribute to the community in the long term. Here, I wish all of you benefit from this annual occasion, I look forward to sharing with and learning from you in Expo 2014.

Introduction

Objective

This is the eighth year we have organised the annual event since 2007 which allows teachers to share ideas and practices with the local and the non-local education practitioners.

The Expo is an academic conference providing a mutually supportive and positive environment, where creative ideas or practices that lead to learning enhancement can be exchanged through meaningful conversation and interactive seminars. We welcome all ideas and practices ranging from the course to the institutional level, regardless of whether technology is involved or not.

The 'Teaching and Learning Innovation Expo 2014' has five main features: a formal opening session, keynote sessions, information talks, poster presentations and a one-week poster exhibition as a follow-up.

Organisers

eLearning Service @ CU

http://www.cuhk.edu.hk/eLearning/

A joint project of ITSC and CLEAR

Information Technology Services Centre (ITSC)	Centre for Learning Enhancement And Research (CLEAR)
Sally Wong	Prof. Paul Lam
Judy Lo	Henry Chiu
Eva Cheung	Prof. Isabella Poon
Carol Chiu	

Programme

Summary

1. Opening address

2. Keynote addresses

3. Talks will be organised in parallel sessions (25-minute slots in four sessions). The talks include information talks on defined themes and formal presentations by teachers on their work.

4. An assembly of poster presentations. We hope our participants enjoy a light lunch while learning about new ideas and discussing with colleagues.

5. The posters will be exhibited at the venue for a week (from 15 to 19 December 2014)

Timetable of the Main Events

Time	Programme				
8:45am – 9:15am	Registration				
9:20am – 9:30am	Formal opening **by Prof. Joseph J.Y. SUNG**				
9:30am – 10:15am	Keynote address **by Prof. Vivian Wing Yan LEE**				
10:15am – 11:00am	Student Voice on eLearning **by CUHK students**				
11:00am – 11:15am	Coffee break (1/F, LSK) [1,2]				
11:15am – 12:00am	Keynote address **by Prof. Steven Sek Yum NGAI**				
12:00pm – 1:30pm	**Lunch and interactive poster presentation (1/F, LSK) [1, 2]**				
1:30pm – 1:55pm	Parallel session T1 (LSK 202)	Parallel session T2 (LSK 204)	Parallel session T3 (LSK 206)	Parallel session T4 (LSK 208)	Parallel sessions T17 (LSK 201)
2:00pm – 2:25pm	Parallel session T5 (LSK 202)	Parallel session T6 (LSK 204)	Parallel session T7 (LSK 206)	Parallel session T8 (LSK 208)	
2:30pm – 2:55pm	Parallel session T9 (LSK 202)	Parallel session T10 (LSK 204)	Parallel session T11 (LSK 206)	Parallel session T12 (LSK 208)	
3:00pm – 3:25pm	Parallel session T13 (LSK 202)	Parallel session T14 (LSK 204)	Parallel session T15 (LSK 206)	Parallel session T16 (LSK 208)	
3:30pm – 4:00pm	Refreshment + Poster awarding + Closing (1/F, LSK)[1,2]				

Remarks:

1. *Free of charge. Free lunch will be provided.*

2. *For environmental protection, please bring along your own cup for drinks.*

Judges of the poster award:

Dr Cecilia CHAN	Head of Professional Development, Centre for the Enhancement of Teaching and Learning (CETL), The University of Hong Kong
Dr Tak HA	Associate Director of Center for Enhanced Learning and Teaching, Hong Kong University of Science and Technology
Dr Kevin CHAN	Department of Applied Social Sciences, The Hong Kong Polytechnic University

Timetable of talks

Session	Time		Name of Presenters	Title
Talks				
T1		202	Prof. Irwin KING	Knowledge and Education Exchange Platform (KEEP)
T2		204	Prof. Jette HANSEN EDWARDS	Development of a Flash Animation Programme for English Vowel Training: A High Variability Approach
T3	1:30pm - 1:55pm	206	Joseph LEUNG Prof. Shekhar KUMTA Alex YUNG Dr Yan JIN	Using Augmented Reality to Expand Teaching
T4		208	Porf. Wei Hsin LIAO	Inspiring Students to be Creative through Technological Innovation
T17		201	Dr Jacqueline Wai Ting WONG	How to Flip Your Class with Blackboard?
T5		202	Prof. Chung Yim YIU Prof. Hendrik TIEBEN Prof. Kuei Hsien LIAO	A Case Study of Applying Interdisciplinarity in Teaching Urban Studies Program
T6		204	Prof. Marc Aurel SCHNABEL Sky Tian Tian LO Aydin SERDAR	ModRule: An Architectural Design Learning Platform
T7	2:00pm - 2:25pm	206	Prof. Pang Chui SHAW Prof. Siu Kai KONG Kenneth Chi Fai LEUNG Queenie Pui Yin LAU	Learning through E-observation - Videos and Interactive Questions on Common Concepts and Techniques for Effective Learning of Biochemistry
T8		208	Prof. Helene Hoi Lam FUNG Fan ZHANG	Internationalisation: Its Definition, Its Positive and Negative Effects, and How We May Enhance It

Session	Time		Name of Presenters	Title
T9		202	Dr Kam Moon PANG Dr Derek Hang Cheong CHEUNG Dr Sandy Wan Heng HOI Dr Andy Ka Leung NG Dr Wing Hung WONG	Development of a Mobile Aid to Enhance Understanding of Core Texts
T10	2:30pm - 2:55pm	204	Prof. Wan Yim IP Prof. Carmen Y.W.H. CHAN Prof. Aileen W.K. CHAN Dr Ka Ming CHOW	Interactive E-learning Courseware for Obstetric Nursing
T11		206	Dr Ming Ho CHAN Prof. Ming Chung CHU	Some Experience in Experiential Learning Activities
T12		208	Dr Jose LAI	The Challenges and Implementation of Large-scale Courses and Quality Assurance Processes for the 9-Unit ELTU Programme
T13		202	Prof. Kevin AU Bernard SUEN	Design Thinking and the Education of T-shaped Learners
T14		204	Elsie CHRISTOPHER	Language and Cultural Exchange: Peer Learning and Reflective Writing
T15	3:00pm - 3:25pm	206	Dr Florence Mei Kuen TANG Olivia Miu Yung NGAN Dr Yan JIN Alex YUNG Joseph LEUNG Daisy CHEN Judy LO Prinpom LAU Eva CHEUNG	The Development of Teaching Courseware for Blended Learning in Anatomy: A Pilot Study
T16		208	Dr Rebecca Kit Ying LEE	Creating an Online Question Bank to Promote Peer Learning Using the CU eLearning System

Keynote Addresses

Professor Vivian Wing Yan LEE

Associate Professor, School of Pharmacy,
Assistant Dean (Student Development), Faculty of Medicine
The Chinese University of Hong Kong

Topic

My Lesson in Teaching and Learning: TEACH and RCT

Abstract

At The Chinese University of Hong Kong (CUHK), we nurture our next generation to be the future leaders of our society, and young people learn and grow academically and morally. I am fortunate to learn how to teach from many outstanding and excellent teachers as well as students at CUHK. Today, I would like to share with you two acronyms - "TEACH" and "RCT". My teaching philosophy is "TEACH" - Teamwork 團隊合作, Engage 積極參與, Action 委身服務, Commitment 無私承擔 and Heart 全心全意. Teaching is our promise and commitment to students coming from the bottom of our hearts through various actions, engagements and teamwork! In the book of Proverbs of the bible, it said "The teaching of the wise is a fountain of life, turning a man from the snares of death." It reminds me the importance of a good teacher and how one man affects another.

In addition, I believe RCT can co-exist: Research, Clinical Service and Teaching. Not only does RCT help me to achieve the teaching and learning objectives, it also motivates me to explore innovative ways for research and service development.

Biography

Dr Vivian Lee is currently the Associate Professor of the School and Assistant Dean (Student Development) of the Faculty of Medicine. Before her current appointment, she had worked as a hospital clinical pharmacist at Cedars-Sinai Medical Center, in Los Angeles, USA. Dr Lee received her bachelor of sciences degree in Biochemistry at the University of California, Los Angeles (UCLA) and her doctor of pharmacy degree in the School of Pharmacy, University of Southern California (USC). She had pursued post-doctoral training in Pharmacy Practice residency at the Huntington Memorial Hospital in Pasadena, USA.

Dr Lee is dedicated for the clinical pharmacy development. She started the first clinical pharmacy clerkship program in Hong Kong as well as the overseas student exchange in clinical pharmacy with USC at CUHK. In addition, she tries to expand the roles of pharmacist through various innovative ways including the launch of the first interactive online drug information platform in Hong Kong-Ask My Pharmacist Online University Led drug Enquiry Platform (AMPOULE), the Paediatric Health: easy Access Resources on Medicines (PHARM) and the community pharmacy outreach program to cope with the demands of pharmaceutical care to improve medication adherence and chronic disease management in elderly patients of Hong Kong.

Keynote Addresses

Prof. Steven Sek Yum NGAI

Professor, Department of Social Work,
Associate Director, Chung Chi College,
The Chinese University of Hong Kong

Topic

Service-Learning, Program Design and Student Outcomes:
The Experiences of a Local Service-Learning Program at Chung Chi College

Abstract

Service-learning, which provides a structured learning experience by integrating academic study with community service, is becoming increasingly popular throughout the world. It is seen as ideally suited to achieving both the personal and academic goals of students and the broader goals of civic responsibility and social justice in communities. This keynote presentation describes the design of a local service-learning program that we have implemented at Chung Chi College since 2000. Based on survey data collected from 94 students participating in the service-learning program, it then illustrates the impacts of the program on student learning outcomes. The results show that majority of the students have benefited in the following aspects: (1) By developing personal autonomy through real world experiences, the program develops within students a recognition and faith in their potential. It enhances their ability to be self-assured, to assume new responsibilities, and to achieve individual growth. (2) Students move to becoming responsible citizens and active agents of social change. As they learn to care for different deprived groups in the community, they are assuming meaningful roles and responding to real issues in ways that have long-lasting impacts on their own lives. Recommendations, based on the shortcomings we have witnessed and the changes we have implemented, will also be made.

Biography

Prof. Steven Sek-yum Ngai is the Professor at the Department of Social Work of The Chinese University of Hong Kong (CUHK), the Director of CUHK-Nankai Joint Research Center of Social Policy, and the Associate Director of CUHK Chung Chi College Service-Learning Centre. His research interests are in the areas of service-learning and leadership development, social exclusion and youth citizenship, mutual aid and youth empowerment, and qualitative research methodology. He was granted the Faculty of Social Science Exemplary Teaching Award in 2000.

Prof. Ngai coordinated and developed the service-learning program of CUHK Chung Chi College in 2000, which was the first of its kind in the field of higher education in Hong Kong. Since the mid-2000s, his efforts have been extended to advancing the teaching and learning quality of service-learning programs in mainland China and Hong Kong. As such, he has been invited by a number of mainland universities and non-governmental organisations to provide training on service-learning pedagogy to faculty members from universities in East China and Guizhou Province. Moreover, he has been invited by the HKSAR Government to provide a series of service-learning workshops to secondary school teachers and their community partners. His commitment to the development of service-learning programs has also led to two important research projects commissioned by the HKSAR Government, including "Partnership Scheme of Other Learning Experiences on Community Service" (2008-10) and "Navigator to Community Service in Other Learning Experiences: From Experience to Learning" (2009).

Student Voice on eLearning

Students from three faculties will be presenting their views on various issues related to the use of eLearning in the University. They will touch upon the eLearning experiences they have had as well as the perceived usefulness of these practice. They will also talk about needs and expectations in more general terms as well as how technology could be used to further assist teaching and learning in students' perspectives. Teachers and students should understand each other better in our endeavor to shape the future for the University.

Presenters:

Faculty of Science	Ka Lai AU Yan Wing CHAN Kwan Fai CHAN Ho Pan LI Yiu Chun SIN
Faculty of Law	Ho Yin LEUNG
Faculty of Arts	Shuk Kwan YAU

Presenters

	Name of Presenters	Unit	Title	Poster Station	Talk Session
1	Dr Kendrew Kin Wah MAK Dr Wing Fat CHAN Dr Yu San CHEUNG	Department of Chemistry	Class Responding Applications for Undergraduate Laboratory Courses	P1	-
2	Dr Sally Wai Yan WAN Leo Lik Chun WONG Jacky Chun WONG Yan WONG Kelvin Shing Pan CHONG David Chong Kwai YEUNG	Department of Curriculum and Instruction	Global Curriculum Inquiry in Teacher Education through Online Discussion	P2	-
3	Prof. Chung Yim YIU[1] Prof. Hendrik TIEBEN[2] Prof. Kuei Hsien LIAO[2]	[1]Department of Geography and Resource Management [2]School of Architecture	A Case Study of Applying Interdisciplinarity in Teaching Urban Studies Program	P3	T5
4	Prof. Morris S.Y. JONG Eric LUK Silu LI Alex WANG	Department of Curriculum and Instruction & Centre for the Advancement of IT in Education	LearningVillages: Equipping Education Students with Pedagogical Knowledge and Skills in Facilitating Online Game-based Collaborative Inquiry Learning	P4	-
5	Dr Kam Moon PANG Dr Derek Hang Cheong CHEUNG Dr Sandy Wan Heng HOI Dr Andy Ka Leung NG Dr Wing Hung WONG	Office of University General Education	Development of a Mobile Aid to Enhance Understanding of Core Texts	P5	T9
6	Elsie CHRISTOPHER	Independent Learning Centre	Language and Cultural Exchange: Peer Learning and Reflective Writing	P6	T14
7	Louis LAM	The School of Continuing and Professional Studies	A Student Comparison Study of Mobile Learning in Higher Education of Hong Kong	P7	-

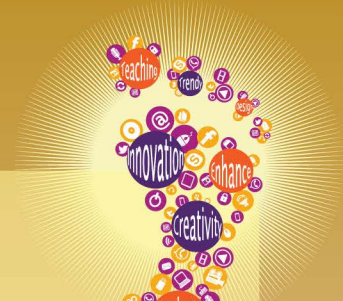|	Name of Presenters	Unit	Title	Poster Station	Talk Session
8	Prof. Jette HANSEN EDWARDS	Department of English	Development of a Flash Animation Programme for English Vowel	P8	T2
9	Dr Felix Lip Yan CHAO[1] Dr Vivan Yin Ha CHAN[1] Dr Benson Wing Kin LEE[1] Dr Pit Shun LAI[2]	[1]Independent Learning Centre [2]Department of Chinese and Literature	Promoting Learner Autonomy through Chinese: Online Learning Platform for University Chinese Grammar in Use	P9	-
10	Dr Jacqueline Wai Ting WONG	Decision Sciences and Managerial Economics	How to Flip Your Class with Blackboard?	P10	T17
11	Prof. Vivian Wing Yan LEE	School of Pharmacy	Multidisciplinary eLearning Platform for Medication Safety (MELODY)	P11	-
12	Prof. Marc Aurel SCHNABEL Sky Tian Tian LO Aydin SERDAR	School of Architecture	ModRule: An Architectural Design Learning Platform	P12	T6
13	Prof. Janita Pak Chun CHAU[1] Suzanne Hoi Shan LO[1] Prof. Vivian Wing Yan LEE[2] Prof. Diana Tze Fan LEE[1]	[1]The Nethersole School of Nursing [2]School of Pharmacy	Enhancing Communication with Older Adults with Hearing Impairment	P13	-
14	Dr David Tai Wai LAU Dr Cheung Ming CHOW Tin Hang WONG	School of Life Sciences	Smart Phone-based Experience Learning of Botanic Courses and Laboratory Classes	P14	-
15	Dr Tsz Ping LAM Dr Kevin Ki Wai HO Dr Bobby NG Dr Benlong SHI Lyn WONG Patrick TSANG	Department of Orthopaedics and Traumatology	Formative Assessment with Attribute-based Performance Analysis for Undergraduate Orthopaedic Training	P15	-

	Name of Presenters	Unit	Title	Poster Station	Talk Session
16	Prof. Pang-Chui SHAW Prof. Siu-Kai KONG Kenneth Chi Fai LEUNG Queenie Pui Yin LAU	School of Life Sciences	Learning through e-Observation - Videos and Interactive Questions on Common Concepts and Techniques for Effective Learning of Biochemistry	P16	T7
17	Prof. Wan Yim IP Prof. Carmen Y.W.H. CHAN Prof. Aileen W.K. CHAN Dr Ka Ming CHOW	The Nethersole School of Nursing	Interactive eLearning Courseware for Obstetric Nursing	P17	T10
18	Prof. Helene Hoi Lam FUNG, Fan ZHANG	Department of Psychology	Internationalisation: Its Definition, Its Positive and Negative Effects, and How We May Enhance It	P18	T8
19	Lai Fong LI	CUHK Library	Research Smart: A Digital Literacy eLearning Courseware	P19	-
20	Prof. Anna LEE Patricia TONG Dr Yan JIN Prof. Gavin JOYNT	Department of Anaesthesia and Intensive Care	Making Sense of Medical Diagnostic Tests: The eLearning Way	P20	-
21	Dr Rebecca Kit Ying LEE	School of Biomedical Sciences	Creating an Online Question Bank to Promote Peer Learning Using the CU eLearning System	P21	T16
22	Joseph LEUNG Prof. Shekhar KUMTA Alex YUNG Dr Yan JIN	Teaching and Learning Resource Centre	Using Augmented Reality to Expand Teaching	P22	T3
23	Joseph LEUNG Prof. Shekhar KUMTA Dr Yan JIN Alex YUNG	Teaching and Learning Resource Centre	Eliminating Flawed Items in High-Stake Examination	P23	-

	Name of Presenters	Unit	Title	Poster Station	Talk Session
24	Prof. Irwin KING	Department of Computer Science and Engineering	Knowledge and Education Exchange Platform (KEEP)	P24	T1
25	Ivan CHAN	CUHK Library	Revitalising Library Learning Spaces to Support Various Student Learning Styles	P25	-
26	Prof. Kevin AU Bernard SUEN	Department of Management	Design Thinking and the Education of T-shaped Learners	P26	T13
27	Eddy LI[1] Dr Beatrice MA[1] Eva CHEUNG[2] Edsoulla CHUNG[1] Matthew FUNG[1] Antony HUEN[1] Steven YEUNG[1]	[1]English Language Teaching Unit (ELTU) [2]Information Technology Services Centre (ITSC)	Vocabulary Expansion for the App Generation: An eLearning Initiative	P27	-
28	Dr Isabel HWANG[1] Dr Florence Mei Kuen TANG[1] Prof. Michael TAM[1] Prof. Xiao Qiang YAO[1] Dr Yan JIN[2] Ray LEE[3]	[1]School of Biomedical Sciences [2]Teaching and Learning Resource Centre [3]Information Technology Services Centre (ITSC)	Advanced Virtual 3D Leap-Motioned Lung for Understanding Human Lung Function	P28	-
29	Dr Florence Mei Kuen TANG[1] Prof. Kenneth Ka Ho LEE[1] Dr Isabel HWANG[1] Prof Paul LAM[2] Ray LEE[3] Maggie WONG[3] Olivia Miu Yung NGAN[4]	[1]School of Biomedical Sciences [2]Centre for Learning Enhancement And Research [3]Information Technology Services Centre (ITSC) [4]School of Public Health and Primary Care	The Development of Blended Learning with iOS Mobile Application in Teaching of Histology	P29	-
30	Dr Florence Mei Kuen TANG[1] Olivia Miu Yung NGAN[2] Dr Yan JIN[3] Alex YUNG[3] Joseph LEUNG[3] Daisy CHEN[4] Judy LO[4] Prinpom LAU[4] Eva CHEUNG[4]	[1]School of Biomedical Sciences [2]School of Public Health and Primary Care [3]Teaching and Learning Resource Centre [4]Information Technology Services Centre	The Development of Teaching Courseware for Blended Learning in Anatomy: A Pilot Study	P30	T15

	Name of Presenters	Unit	Title	Poster Station	Talk Session
31	Prof. Paul LAM Kevin WONG	Centre for Learning Enhancement And Research	Mobile Learning @ CUHK in 2014	P31	-
32	Prof. Paul LAM Kevin WONG	Centre for Learning Enhancement And Research	Coming Attractions: Mobile Learning Tools for 2015	P32	-
33	Michael CHUNG Prof. Yuanan JIANG Dr Vincent LEE Dr Chi Sun NG Winnie LEE	School of Chinese Medicine	"Chinese Materia Medica Memoriser" Smartphone Learning Platform	P33	-
34	Michael CHUNG[1] Prof. Yuan-an JIANG[1] Simon HO[2] Lilian LO[1] Wendy FAN[1]	[1]School of Chinese Medicine [2]Shaw College	"Meridian Illustrator" – The Interactive Acupuncture Textbook	P34	-
35	Dr David Lap Kei CHOW Dr Fred Kei Tat KU	Department of Decision Sciences and Managerial Economics	Platform for Multimedia Educational Resources (PMER)	P35	-
36	Judy LO Daisy CHEN Taylor TANG	Information Technology Services Centre (ITSC)	Create Courseware for Enhancing Teaching and Learning	P36	-
37	Prof. Paul LAM[1] Judy LO[2]	[1]Centre for Learning Enhancement And Research [2]Information Technology Services Centre (ITSC)	CU eLearning System User Forum	P37	T5
38	Edman CHAN	Information Technology Services Centre (ITSC)	Lecture Recording Now Available in all Communal Classrooms	P50	-

	Name of Presenters	Unit	Title	Poster Station	Talk Session
39	Prof. Anthony NELSON[1] Prof. Simon LAM[1] Alex YUNG[2] Dr Yan JIN[2] Jenny FANG[3] Churk CHAN[3] Stella CHOW[4] Prof. Anisha ABRAHAM[4] Prof. Shekhar KUMTA[2]	[1]Department of Paediatrics [2]Teaching and Learning Resource Centre [3]Medical Information Technology [4]The Jockey Club School of Public Health and Primary Care	Upgrading and Integrating IDEAL for Formative Assessments and Life Long Learning Skills Teaching in Paediatrics	P51	
40	Dr Man Ho CHAN King Chun LAI	Department of Physics	Analytical Methods in Physics: A Self-learning Project Using Micro-modules	P52	
41	Dr Shiu Sing TONG Prof. Kenneth YOUNG Yik Hei LAM	Department of Physics	Micro-modules for Freshman Physics	P53	
42	Dr Jose LAI	English Language Teaching Unit	The Challenges and Implementation of Large-scale Courses and Quality Assurance Processes for the 9-Unit ELTU Programme	P44	

Teaching Excellence Ambassador (TEA) Corner

Name of Presenters	Unit	Title	Poster Station	Talk Session
Prof. Lawrence CHIU	School of Life Sciences	Using Online Self-learning Systems to Elevate the Teaching and Learning Quality and Efficiency of Laboratory Classes	P38	-
Prof. Ming Chung CHU	Department of Physics	Some Experience in Experiential Learning Activities	P39	T11
Prof. Jane JACKSON	Department of English	Promoting Intercultural Competence and Global-Mindedness through Critical Reflection	P40	-
Prof. Liwen JIANG	School of Life Sciences	Developing Green Fluorescent Protein as a New Tool for Teaching Cell Biology in Large Class	P41	-
Dr Fred Kei Tat KU	Department of Decision Sciences & Managerial Economics	1. Adopting Peer-Created Multimedia Resources for Teaching & Learning 2. Facebook for Teaching & Learning	P42	-
Prof. Shekhar KUMTA	Department of Orthopaedics & Traumatology	Developing Mastery in Teaching: What Motivates Us?	P43	-
Dr Jose LAI	English Language Teaching Unit	The Challenges and Implementation of Large-scale Courses and Quality Assurance Processes for the 9-Unit ELTU Programme	P44	T12
Dr Fung Lin LEUNG	Physical Education Unit	The Efficacy of Using the Internet in Physical Activity Promotion	P45	-

Name of Presenters	Unit	Title	Poster Station	Talk Session
Prof. Wei Hsin LIAO	Department of Mechanical & Automation Engineering	Inspiring Students to be Creative through Technological Innovation	P46	T4
Prof. Lai Chong MA	Department of Social Work	Learning and Teaching: Integrating Clinical Social Work Practice and Research into Teaching	P47	-
Dr Kam Moon PANG	Office of University General Education	Design of Discussion Topics and Facilitation of Group Discussion of Euclid's Element in a General Education Course	P48	-
Dr Wing Hung WONG	Office of University General Education	Diascopic Approach as a Way to Connect Science with Humanity in General Education	P49	-

Abstracts

1. Class Responding Applications for Undergraduate Laboratory Courses (P1)

Dr Kendrew Kin Wah MAK, Dr Wing Fat CHAN & Dr Yu San CHEUNG
Department of Chemistry

With the availability of campus-wide Wi-Fi, powerful and comprehensive campus eLearning platform, classroom response system, and the popularity of smartphones and tablet PCs among students, there are new opportunities to integrate these new technologies into the undergraduate courses in a creative manner.

In this project we are exploring the feasibility of integrating eLearning platform and classroom responding methods into the undergraduate laboratory classes. The applications of eLearning technologies in laboratory classes are being explored in the following ways:

- Setting up a centralised repository to collect the experimental results from the students in a lab class.

- Allowing students to view and compare the results obtained by each other from this centralised repository.

- Facilitating the instructors to monitor the performance of the students.

- Facilitating the polling of the students' data together for turning a lab session into a bigger investigative project.

- Providing learning resources for students to improve their practical skills for lab activities.

This eLearning strategy is being tried in a number of Chemistry undergraduate laboratory courses. The comments received from students among the trial runs are generally positive and encouraging.

We have tried implementing the class responding applications on a number of different platforms, and compared these different platforms in terms of capability and flexibility, ease of use, and popularity among student users. We have explored the feasibility of implementing the class response system on some popular social-networking platforms (e.g., Facebook, Instagram), cloud storage platforms (Dropbox, Google Drive), photo/video sharing platforms (e.g. YouTube), and self-maintained storage device (NAS - network attached storage).

2. Global Curriculum Inquiry in Teacher Education through Online Discussion (P2)

Dr Sally Wai Yan WAN, Leo Lik Chun WONG, Jacky Chun WONG, Yan WONG,
Kelvin Shing Pan CHONG & David Chong Kwai YEUNG
Department of Curriculum and Instruction

There have been different studies about the use of online discussion for student learning. However, few studies were done to explore how online discussion facilitated teacher education through global collaboration. This paper aims to present the findings of how a group of prospective teachers used online discussion for inquiring global issues in collaboration with Spanish and Canadian students and teachers. Qualitative data was collected with the use of online messages, individual interviews and focus group interviews. Findings and discussion will be presented in this session.

3. A Case Study of Applying Interdisciplinarity in Teaching Urban Studies Program (P3, T5)

Prof. Chung Yim YIU[1], Prof. Hendrik TIEBEN[2] & Prof. Kuei Hsien LIAO[2]
[1]Department of Geography and Resource Management, [2]Department of Architecture

This paper introduces a course: Studies of Cities in a Comparative Perspective (URSP 2400), in the new programme of urban studies in The Chinese University of Hong Kong, and highlights the course design and performance as far as interdisciplinarity is concerned. A case study on the course is provided to illustrate a new approach in teaching and learning urban studies in an interdisciplinary approach. The results of the evaluation of the course are very promising.

4. LearningVillages: Equipping Education Students with Pedagogical Knowledge and Skills in Facilitating Online Game-based Collaborative Inquiry Learning (P4)

Prof. Morris S.Y. JONG, Eric LUK, Silu LI & Alex WANG
Department of Curriculum and Instruction & Centre for the Advancement of IT in Education

We develop LearningVillages (LV), an online gamifed virtual learning environment, to empower our education students (i.e. pre-service and in-service teachers) in the Faculty of Education to understand and experience the educational potential of online gaming for facilitating constructivist learning. LV operates in the form of massively multi-player online role-play gaming (MMORPG). Each learner can design his/her own avatar in this "virtual world." LV engages learners to pursue two-tier discussion (village-level and house-level) in the process of inquiry learning. A village in LV represents a societal issue. Learners in each village can build houses to denote their viewpoints or arguments with respect to the issue. They can further construct roads to interconnect the houses to reflect their in-between relationship. This is village-level discussion. Moreover, every house is "enterable," functioning as an independent forum to facilitate in-depth discussion about the corresponding viewpoint or argument. This is house-level discussion. A key strength of the two-tier discussion design is that, major viewpoints and arguments upon a societal issue and their mutual relationships can always appear neatly in the form of a mind map. Apart from integrating LV into the IT in education courses in our Faculty's BEd, PgDE, and MEd programmes to equip our students with necessitated pedagogical knowledge and skills to adopt online game-based collaborative inquiry learning in their teaching practice, we have also transferred this innovation to more than 80 primary and secondary schools.

5. Development of a Mobile Aid to Enhance Understanding of Core Texts (P5, T9)

Dr Kam Moon PANG, Dr Derek Hang Cheong CHEUNG, Dr Sandy Wan Heng HOI,
Dr Andy Ka Leung NG & Dr Wing Hung WONG
Office of University General Education

'UGFN 1000 In Dialogue with Nature' is a compulsory general education foundation course for undergraduates which engages students to explore how renowned thinkers investigate and understand Nature. Meanwhile, students also reflect on the humans' place in Nature. Taught in small group seminars, students are required to read, understand and discuss science-related core texts. Students come from all faculties in CUHK, some of them, especially those who have had little exposure to science, find difficulties in understanding the classic texts on their own. To respond to the needs of the students, we have developed an interactive mobile app 'DiaNable', which serves as a reading companion and a self-evaluation tool to help students understand difficult texts. 'DiaNable' consists of a multitude of text-related questions with various levels of difficulty, and feedbacks are provided to guide students to understand concepts or ideas in the texts. Students' preliminary feedback from quantitative online survey and qualitative focus group interviews suggests that 'DiaNable' can enhance their understanding as well as clarify misunderstanding of the texts. The idea of this interactive learning aid could be easily extended to other courses with intensive take-home readings.

6. Language and Cultural Exchange: Peer Learning and Reflective Writing (P6, T14)

Elsie CHRISTOPHER
Independent Learning Centre

The Language Exchange Program (LEP) was launched in the fall of 2012. The program is a 6 week semi-structured program which involves the language and cultural exchange of students wishing to improve a target language, namely: English, Cantonese, and Putonghua. After short listing and interviewing based on students' place of origin, native language(s) and general communicative proficiency, they attend weekly workshops, meet with their assigned groups outside of the classroom (usually 4 - 5 students/group), and participate in culturally related activities. Workshops are facilitated by one English lecturer and one Chinese (Cantonese and Putonghua) lecturer who work with students in the classroom simultaneously.

Through the LEP groupings, students become peer tutors for others in their respective groups. Activities held outside the classroom are organised by groups of students so that they can share in each other's language learning. The exploration of local culture is also further augmented by the sharing of cultural information provided by non-local students. Culturally relevant topics that are covered during the classroom sessions include: films, travel, food, festivals, customs and places of interest. Students are asked to write weekly self-reflective journal entries about their learning progress. These written entries will be examined and used to inform future program development.

7. A Student Comparison Study of Mobile Learning in Higher Education of Hong Kong (P7)

Louis LAM
The School of Continuing and Professional Studies

The advancement of the Internet and mobile technologies facilitates the development and research opportunities of mobile learning. The emerge of mobile learning is a complement to existing eLearning platform. The purpose of this study is to investigate student perception about the use of mobile learning in higher education of Hong Kong through using Facebook and Moodle. In order to understand the student benefits from mobile learning over the Facebook and Moodle platform, this study attempts to examine a number of factors including (1) student attitude to mobile learning, (2) perceived usefulness, (3) perceived ease of use and (4) social presence. A comparison between two groups of students studying Higher Diploma programme and Top-up degree programme of the School of Continuing and Professional Studies (SCS), The Chinese University of Hong Kong (CUHK) is studied with respect to these four factors. The research findings provides teachers more information about the integration of mobile learning into existing learning management system (LMS) and the perception of student with different background towards the employment of mobile learning so that it can facilitate student learning anywhere anytime and hence their learning success.

8. Development of a Flash Animation Programme for English Vowel Training: A High Variability Approach (P8, T2)

Prof. Jette HANSEN EDWARDS
Department of English

In this presentation, I will discuss the creation of "English Accents Worldwide," a website funded via a Teaching Development Grant (2012-2015 Triennium). The objective of this project was to develop a website to use for teaching in various phonetics and phonology courses in the English Dept. at CUHK. The website would be used to help teach students about English phonetics and phonology, language variation, and world Englishes. The website includes word lists, reading passages, and conversational data, from speakers of a variety of Englishes, including British English, American English, Australian English, New Zealand English, Canadian English, and Singapore English. Acoustic analyses of each speaker's vowels are also included. Animation of 11 vowels are also presented in the website.

The aim of the project was to develop a website that could be used in conjunction with other teaching materials to allow students to become familiar with differences among English vowels, as well as differences in vowel inventories and allophonic variation, among different varieties of English.

9. Promoting Learner Autonomy through Chinese:
Online Learning Platform for University Chinese Grammar in Use (P9)

Dr Felix Lip Yan CHAO[1], Dr Vivan Yin Ha CHAN[1],
Dr Benson Wing Kin LEE[1] & Dr Pit Shun LAI[2]
[1]Independent Learning Centre, [2]Department of Chinese Language and Literature

The aim of this TDG-funded project is to promote independent learning and to encourage the incorporation of self-directed and autonomous learning into the school curriculum. The Independent Learning Centre in collaboration with Department of Chinese Language and Literature has created an online learning platform for learning Chinese grammar. The platform contains tailor-made content (for CHLT1100 University Chinese), reflective questions, interactive exercises, note taking functions and recommended resources for learners. There are six chapters: 1) Foundations of Chinese grammar, 2) Distinctive features of Chinese, 3) The formation of words and lexical classification, 4) Sentence analysis, 5) Language phenomena in HK and the pragmatic use of grammar, 6) Applications of grammatical and lexical knowledge in writing. The distinct benefits of such an online system are that students are allowed to set their own learning goals and study at their own pace. Learner autonomy is further developed by encouraging teachers to incorporate the needs of the class and design individual teaching activities within the platform. The online learning platform would be required for CHLT1100 and it has been trailed during the fall semester of 2014.

10. How to flip your class with Blackboard? (P10, T17)

Dr Jacqueline Wai Ting WONG
Decision Sciences and Managerial Economics

This is a presentation for showing how to use Blackboard's features for teaching a Project Based Learning (PBL) course in Business School.

The presentation content includes:

(1)   Course structure

(2)   Time line of an Open-ended group project

(3)   Selected Blackboard's features

(4)   Student feedback

11. Multidisciplinary eLearning Platform for Medication Safety (MELODY) (P11)

Prof. Vivian Wing Yan LEE
School of Pharmacy

Medication and patient safety have been an area of focus in healthcare research and have been reported to occur with alarming frequency with the great majority involving junior healthcare professionals. A recent national survey of United States and Canadian Medial Schools suggested that only a few schools have explicit patient safety curricula, and most existing curricula are based in lectures or small group discussion.

Multidisciplinary eLearning Platform for Medication Safety (MELODY) is designed to meet the following goals and objectives:

1. To improve and increase awareness of medication safety in students of the Faculty of Medicine for the goal of healthy community in Hong Kong;

2. To develop the first cross-disciplinary e-teaching platform in the Faculty of Medicine;

3. To enhance multi-disciplinary collaborations and learning through this teaching platforms for staffs and students;

4. To encourage the use of eLearning platform in teaching medicine curriculum;

5. To utilise simulations and animations of various case scenarios on medication safety from different perspectives (medicine, nursing and pharmacy);

6. To provide the first-hand observations for students to identify medication errors during clinical clerkship thus giving the teaching hospitals an untapped and invaluable resource for spotting and preventing medication errors.

12. ModRule: An Architectural Design Learning Platform (P12, T6)

Prof. Marc Aurel SCHNABEL, Sky Tian Tian LO & Aydin SERDAR
School of Architecture

Teaching and learning architecture has always been a challenge. Especially at CUHK, students are taught in conventional, outdated pedagogical methodologies in their first years of study. Computational aspects, the norm in all professional praxes, are left aside. Hereby would parametric design thinking and computational teaching and learning methodologies not only reflect the needs of the learners but also allow them to engage in authentic learning equipping them with a current knowledge. We have adopted a new teaching method by exposing the students to a series of learning modules allowing students to understand and adapt to the new design methodology gradually in authentic settings. Based on our last year's presentation at the T&L-Expo we present a novel platform designed and developed to promote teaching, learning and collaboration between designers and potential occupants in a mass housing design processes.

Mass housing has been around since the 19th century since when dramatic population increases in major cities is occurring. Houses transformed from individual units or houses to multi-storied apartment buildings. At the same time family structures on the other hand, have changed drastically. There are various types of

family configurations in our current society. The contradiction is however, that most housing designs do not react to the current social needs of housing. Layouts of apartments remain the same and housing design are becoming monotonous. This condition 'forces' people to live in identical units designed and 'prefabricated' for efficiency and affordability and not for the actual users. The aspiration to own an own home with roof, walls, and backyard is replaced with the basic need to just simply have a 'container' for living.

With the current advancement of digital architecture, novel possibilities have emerged. At present, most of the computational method addresses the possibilities of a fully parameterised design. They are mainly generated by a top-down approach and being controlled by architects. At the same time housing design that highly engaged occupants are generated using non-digital methods. By adopting computational methods, the freedom of design can be developed much further by maintaining the possibility of mass production for economical purpose.

We present how students engage in a full circle of design by using a computational system that we have developed. They set design frameworks and their connected parameters which then is manipulated by future occupants who set on their side targets, budgets and define their desired way of living. We present the evaluation of a design-studio conducted with users and conclude with a critical discussion of how collaborative Mass-Housing Design Process can contribute to deep learning, good design and potential good architects.

13. Enhancing Communication with Older Adults with Hearing Impairment (P13)

Prof. Janita Pak Chun CHAU[1], Suzanne Hoi Shan LO[1],
Prof. Vivian Wing Yan LEE[2] & Prof. Diana Tze Fan LEE[1]
[1]The Nethersole School of Nursing, [2]School of Pharmacy

Background:

Previous studies showed that hearing impairment in older adults was associated with increased prevalence of social isolation, poorer quality of life, and greater participation restriction. Healthcare providers' competency to communicate effectively with hearing impaired older adults is integral to better understand their needs and ensure the provision of culturally appropriate care.

Aim:

To develop and evaluate a module which aimed at enhancing baccalaureate gerontology students' learning of effective strategies to communicate with Chinese older adults with hearing impairment.

Methods and results: The learning module encompasses two parts. Part I contains 14 videotaped vignettes (Total duration: 88 minutes) which aimed at presenting common problems in communication with older adults with hearing impairment in hospitals, rehabilitative, residential, and community settings. Issues related to helpful and unhelpful behaviours in the communication, use of hearing aids, and physical and psychosocial impact of ineffective communication on older adults with hearing impairment were highlighted in the vignettes.

Each vignette is also incorporated with critical-thinking exercises to guide students' discussion and web links to relevant online information and journal readings. Part II of the learning module provides supplementary information about practical communication skills with hearing impaired older adults. It includes a 40-minute videotaped interview with a woman with congenital hearing loss who shared her experience of managing her daily life, study, work and leisure, relationships with her family, friends and colleagues, and her tips on use of hearing aids. Demonstration of sign language commonly used in hospitals, rehabilitative, residential, and community settings were also videotaped and included in this part of the module.

Discussion & Conclusion:

Positive feedback was elicited from 11 baccalaureate students who assisted in the development of the module. The students commented that the module was helpful in enhancing their communication skills and deepening their understanding of hearing impaired older adults' needs. It enables them to be more confident in providing culturally appropriate care. The learning module has been housed in the CU eLearning system and will be introduced in courses of the Bachelor of Science in Gerontology Programme in this academic year. Quantitative evaluation of students' perception of usefulness of the module and areas for further enhancement will be completed at end of the academic year.

14. Smart Phone-based Experience Learning of Botanic Courses and Laboratory Classes (P14)

Dr David Tai Wai LAU, Dr Cheung Ming CHOW & Tin Hang WONG
School of Life Sciences

This project aims to engage the students (from courses BIOL4510, BIOL3570 & UGEB2350) to authenticate and study selected plants in CUHK campus on site. Five learning spots in United College, Central campus, Herbal Garden, Alumni Garden and Chung Chi College would be investigated. On each spot, plant species of ecological value, medicinal uses, or horticultural applications would be tagged in an interactive interface of the mobile App. Guided by the app, students can then visit these spots on sites and examine the highlighted plants in a stepwise manner by interactive questions. For example, tree or shrub; overall height; flower color; fruit size or types. Through the handy tool, students can review basic information of the plants and thus strengthen their knowledge learnt from the lessons. They can also instantly acquire interactive bio-information of these plants on web, including authentication, ecology, economic aspects, medicinal uses and conservation value, so as to further develop their expertise. Also, the tool can facilitate active and peer learning among the community of practice by allowing students to input additional information to the database. The software and database will be finished before mid-2015 and will undergo applications and utilisation by undergraduate students in coming 4 years.

15. Formative Assessment with Attribute-based Performance Analysis for Undergraduate Orthopaedic Training (P15)

Dr Tsz Ping LAM, Dr Kevin Ki Wai HO, Dr Bobby NG, Dr Benlong SHI,
Lyn WONG & Patrick TSANG,
Department of Orthopaedics and Traumatology

The University Teaching and Learning Strategy emphasises the importance of Formative Assessment. An upgrade of the web-based Student Learning Outcome Mapping Platform (SMP) is engineered with an advanced attribute-based Academic Performance Analysis System. This pilot study aimed at evaluating the use of this system.

21 final year medical students underwent a Formative Assessment comprising of 30 A-type MCQs covering ten topics in orthopaedics during the Module. Scores were adjusted with the "mean equating" approach. Analysis was based on attributes on orthopaedic topics, cognitive levels and clinical domains. Data was expressed as mean±standard deviation. Paired t-test was used for analysis.

The overall mean score was 66.7±25.2. Among various topics, the highest mean score was 82.5±28.2 for "Infection" and the lowest was 48.2±20.1 for "Spine". The score for "Factual Recall" items was 70.1±12.4 while that for "Clinical Reasoning" items was 63.3±11.1 (p=0.061). The mean score for clinical domains of "Symptoms", "Signs", "Investigation", "Management" and "Misc" were 80.2±21.8, 59.2±19.0, 69.8±17.3, 62.9±14.2 and 71.2±14.4 respectively.

This pilot study showed the Academic Performance Analysis System worked smoothly. Students will be provided with individual attribute-based Formative Assessment reports against which they should titrate their study planning. Further investigations are warranted to evaluate user's feedbacks and whether the system could enhance academic performance.

16. Learning through E-observation - Videos and Interactive Questions on Common Concepts and Techniques for Effective Learning of Biochemistry (P16, T7)

Prof. Pang Chui SHAW, Prof. Siu Kai KONG,
Kenneth Chi Fai LEUNG & Queenie Pui Yin LAU
School of Life Sciences

To enhance teaching and learning in biochemistry, we have established an eLearning platform (http://www.bch.cuhk.edu.hk/learnbiochem/) with six learning modules: 1. Protein Biochemistry, 2. DNA Technology, 3. Biochemistry and Life, 4. Laboratory Equipment and Techniques, 5. Data Presentation and 6. Self-study Skills. In each module, there are course materials for study, videos for lab techniques demonstration, and animations to illustrate concepts. Moreover, quizzes are available for students to review what they have learnt. The platform provides a comprehensive tool for students to integrate the theory learnt from course materials with laboratory techniques demonstrated in videos.

This project aims at enhancing our eLearning platform by adding more videos and interactive quizzes. The videos will focus on basic techniques of biochemistry. The quizzes will be in the format of multiple-choice questions. Answer with explanation will be shown interactively. We also promote the flexibility of learning, by converting the materials into the format of eBook, for reading on mobile devices.

17. Interactive eLearning Courseware for Obstetric Nursing (P17, T10)

*Prof. Wan Yim IP, Prof. Carmen Y.W.H. CHAN,
Prof. Aileen W.K. CHAN & Dr Ka Ming CHOW
The Nethersole School of Nursing*

Background:

There is a lack of culturally–specific eLearning materials for teaching Obstetric Nursing.

Aims:

To develop an interactive courseware, with the use of local scenarios on real cases, to enrich students' interest in and knowledge of obstetric nursing.

2-Phases Procedure

• Phase I was to collect the real-life scenarios by taking photos and videos from the target obstetric unit of a hospital.

• Phase II was to evaluate the feasibility of integrating the eLearning courseware teaching materials in the two teaching courses on obstetric nursing.

Results:

According to the Blackboard record statistics, there were 60 master students and 92 bachelor students had made access to the videos-vignettes. Overall, the students' satisfaction towards the obstetric eLearning materials was very high. Narrative comments revealed some technical problems in watching the videos but most students found that the real-life clinical case scenarios as shown on the videos were very helpful in their learning of obstetric care. The vivid clinical case scenarios could motivate their interest in self-study and thus help them prepare better both physically and psychologically for coming practice in real clinical settings. More topics of clinical case vignettes were suggested to produce by the students.

18. Internationalisation: Its Definition, Its Positive and Negative Effects, and How We May Enhance It (P18, T8)

Prof. Helene Hoi Lam FUNG & Fan ZHANG
Department of Psychology

Internationalisation of undergraduate education faces many challenges. For example, some question whether the courses and textbooks adopted from foreign countries (usually the U.S.) are suitable for local students. Others are concerned about how students from different backgrounds might get along with one other. This project aims at exploring ways to deal with these challenges. Undergraduate Students from six psychology courses participated in the project. Among them, 27 students took part in 5 focus groups, with 3 to 11 persons in each group. Twenty focus group participants were local students. Two other participants came from Mainland China; and another five participants were international students who came from Taiwan, Japan, Singapore, Sweden and the U.S.A respectively. Findings revealed that the students defined internationalisation mainly in three ways: (1) whether the materials taught were up to international standard; (2) whether the materials learnt could be applied to the local culture and their everyday life; and (3) whether understanding and fusion of different lifestyles and working styles were encouraged. Participants were generally aware of the many opportunities for internationalisation provided at CUHK. They discussed why and why not they participated in such activities, the pros and cons of doing so, and what could have made them participate in such activities. Finally, they freely generated activities that they thought CUHK should provide/ organise to enhance internationalisation.

19. Research Smart: A Digital Literacy eLearning Courseware (P19)

Lai Fong LI
CUHK Library

The information environment is changing rapidly and profoundly in the 21st century, shifting from a paper-based to a digital world. Digital literacy skills, including the ability to find, evaluate, utilise, share, and create content using digital technologies, are increasingly important in higher education and students' academic development. To facilitate students in the acquisition of digital literacy skills, the Library has developed the interactive web-based courseware, Research Smart. It covers understanding the research process, knowing how to use digital tools to find information, evaluating electronic information, as well as collaborating and sharing digital content ethically. The courseware also contains quizzes which assess students' digital literacy competencies. Students will be awarded a Digital Literacy Certificate after completing the quizzes with a score of 80% or above.

20. Making Sense of Medical Diagnostic Tests: The eLearning Way (P20)

Prof. Anna LEE, Patricia TONG, Dr Yan JIN & Prof. Gavin JOYNT
Department of Anaesthesia and Intensive Care

Background and objective:

A patient's history, clinical observations, laboratory test results and imaging studies are "diagnostic tests" that help physicians refine their estimate of the probability that a patient has a particular disease. Medical students are rarely taught a systematic "evidence based" approach to understanding and correctly using diagnostic tests. We developed an eLearning resource for undergraduate medical Year-3 students.

Methods:

The eLearning resource on Blackboard was designed to: (1) strengthen students' skills to decide when a test is worth doing, (2) distinguish tests that are good at "ruling in" or "ruling out" a diagnosis and (3) explore how test interpretation may change in different patient populations. After a 45-minute didactic lecture - Principles of Diagnostic Testing, students completed an eLearning resource (at: http://facs.med.cuhk.edu.hk/slp/other/alee/dtcw/story.html) and gave feedback during a 75-minute computing laboratory session.

Findings:

Of the 278 students, most were satisfied with the resource (84%). Most 'agreed' or 'strongly agreed' that the resource helped them to understand the other tutorial and homework activities (89%) and that it was an effective mode of learning (85%). "Able to learn at my own pace" was an important identified theme.

Conclusion:

The eLearning format to help students make sense of diagnostic tests was effective.

21. Creating an Online Question Bank to Promote Peer Learning Using the CU eLearning System (P21, T16)

Dr Rebecca Kit Ying LEE
School of Biomedical Sciences

One of the challenges in conducting a general education course is the heterogeneous background of the students. Students always find it difficult in understanding abstract medical concepts. An online question bank is designed to assist them in revising such concepts. Conventionally, multiple choice questions (MCQs) are constructed by teachers for formative and summative assessments. In order to promote peer learning, students are invited to participate in designing the MCQs so as to encourage higher-order thinking and the re-organisation of knowledge. A question bank is then created using the software application Respond us and published into the CU eLearning System. The "grade book" function of the CU eLearning System enables teachers to track students' performance from time to time. 77% of students in the class participated in the activity on a voluntary basis this year. Most students agreed that constructing MCQ consolidated their understanding of the course contents and the question bank helped in evaluating their understanding towards the subject.

22. Using Augmented Reality to Expand Teaching (P22, T3)

Joseph LEUNG, Prof. Shekhar KUMTA, Alex YUNG & Dr Yan JIN
Teaching and Learning Resource Centre

Background:

The Teaching and Learning Resource Centre (TLRC) has been actively implementing new ideas to aid teaching. In addition to developing pre-class materials onto the mobile platform, TLRC is now creating contents using an App called Aurasma to help students familiarise with equipments and procedures.

Summary of work:

Aurasma allows teachers to link instructional videos or images to a real-life object, thus, creating an augmented reality to an object. For example, teachers can link a how-to video to a machine; when students use the app to capture the machine, the image will be recognised and the video will be played on the handheld for students' immediate educational needs.

Summary of results:

TLRC has now completed over ten such linkages, or Aura: from advising students on introducing themselves to patients; teaching them on how to perform an IV cannulation; to a steps-by-steps instruction on how to use the ECG machine.

Conclusions:

This new app allows students to be self-taught. By creating such linkages between equipments and instructional materials that students can study on their own, the need for a teacher to teach routine how-to-use lectures on different equipments can be greatly reduced. Revisions on such topics can also be done without the need of any tutors.

23. Eliminating Flawed Items in High-Stake Examination (P23)

Joseph LEUNG, Prof. Shekhar KUMTA, Dr Yan JIN & Alex YUNG
Teaching and Learning Resource Centre

Background:

The Teaching and Learning Resource Centre (TLRC) recently completed a major revamp of items used in final surgical examination.

An internal review of examination items completed in 2007 revealed that half of the items (311/625) that were used in final surgical examination from 2002-2005 were flawed.

TLRC attempted to remediate the situation through providing bi-annual items writing workshops, reorganisation examination committees and most importantly, introducing an item bank for quality control.

Summary of work:

The item writing workshops teaches teachers guidelines on how to create quality questions and examination committees screens all questions that are used in high-stakes examination.

An item bank called International Database for Enhanced Assessments & Learning (IDEAL), is introduced to store all the items used for high-stakes examinations. It allows each examination data to be collected and provides an indicator of potential flawed items that need further review.

Summary of results:

A follow-up study on the items used in the final surgical examination for 2008-2011 was performed and the number of flawed items reduced to 7% (54/742).

Conclusions:

TLRC interventions greatly improved the quality of the items that are used. Many departments also adopted IDEAL as their database to store their own examinations items to ensure for their quality.

24. Knowledge and Education Exchange Platform (KEEP) (P24, T1)

Prof. Irwin KING
Department of Computer Science and Engineering

The higher education sector has been faced with the growing need to integrate technology in teaching and learning. While much has been accomplished in recent years, educators have also encountered some major challenges that hinder further development.

KEEP is a university-wide project, which represents the commitment of The Chinese University of Hong Kong (CUHK) in conjunction with all partner institutions in making use of technology to achieve great changes in teaching and learning in the higher education sector.

The vision of the project is to build a centralised and one-stop Knowledge and Education Exchange Platform (KEEP) education cloud, such that all the education resources, particularly those developed by local educators (e.g., contents, courses, materials, tools, etc.) can be easily showcased, shared, searched, and

made accessible to target users through KEEP.

We aspire to embrace innovative paradigms in teaching and learning, cultivate community of practices for educators, help learners establish virtual communities of learning, mine and analyse learning data to strengthen research-teaching nexus and promote scholarship of teaching and learning.

The objectives of KEEP are to empower educators and students by

- integrating heterogeneous education systems, services, and resources through the development of common standards and protocols;

- providing personal education and collaboration portal as the one-stop site for sharing and accessing all resources and services;

- facilitating innovative education applications and new paradigms, with user-friendly function module development toolkit, powerful big data mining engine, and flexible infrastructure for hosting learning platforms in an educational cloud with a wide variety of services and capabilities.

The educational cloud will provide the cutting-edge technology to every educator and student to improve teaching and learning.

25. Revitalising Library Learning Spaces to Support Various Student Learning Styles (P25)

Ivan CHAN
CUHK Library

In 2012, the CUHK Library introduced the Learning Garden and Research Commons in the new library extension aiming to provide an array of information and technology rich spaces, which are friendly to collaborative learning and meeting the vibrancy of a research library in the digital age. The functional needs of the new spaces were partly informed by the library spaces study in 2011. After more than a year of usage, the Library and CLEAR jointly conducted another study in March 2014 in order to gauge the behavioral changes of students using the new learning spaces in the University Library. The results showed that the students readily adapted to services and facilities of the new 24-hour learning spaces including collaborative study, attending learning activities conducted in learning spaces, etc. In addition to general-purpose computer facilities, users demanded advanced facilities to meet various requirements of their assignments and projects.   Taking the advantage of the adaptability of the zoned open space, the Learning Garden further experimented with an innovative technological workspace -- Makerspace, which provides 3D printing service and multimedia zone to encourage students' to develop their creativity and design concepts into daily life.

26. Design Thinking and the Education of T-shaped Learners (P26, T13)

Prof. Kevin AU & Bernard SUEN
Department of Management

The objective of this project is to nurture T-shaped individuals. These individuals can develop the depth of expertise in a single field (the vertical bar of the T) while retaining their ability to communicate and collaborate with others from different disciplines (the horizontal bar of the T). In doing so we have engaged them in creative, innovative, and multi-disciplinary works, using chiefly the design thinking methodology.

Heading into the third year of the project we will report the experiences we gained in adapting the ideas, tools, and experiences in various settings and for different purposes at CUHK and outside the campus. Our ideas have been tested and modified for undergrads, post-grads, and practitioners, resulted in some indigenous tools and programmes that colleagues of different disciplines may find useful for their classes and teaching. We have also test-run a few formats of classes colleagues may adapt for their own teaching.

27. Vocabulary Expansion for the App Generation: An eLearning Initiative (P27)

Eddy LI[1], Dr Beatrice MA[1], Eva CHEUNG[2], Edsoulla CHUNG[1],
Matthew FUNG[1], Antony HUEN[1] & Steven YEUNG[1]
[1]English Language Teaching Unit (ELTU),
[2]Information Technology Services Centre (ITSC)

Jointly developed by the English Language Teaching Unit and the Information Technology Services Centre, iVocab is a mobile application that supports independent vocabulary learning at The Chinese University of Hong Kong. It allows users to progressively build, consolidate, recycle, and test their knowledge of a select list of high-frequency English words with their mobile devices. This paper aims to introduce the design framework of iVocab, and demonstrate how mobile technology is used to motivate and engage undergraduates in meaningful self-directed language learning activities. It will also illustrate the effectiveness of the mobile application as informed by different performance indicators.

28. Advanced Virtual 3D Leap-Motioned Lung for Understanding Human Lung Function (P28)

Dr Isabel HWANG[1], Dr Florence Mei Kuen TANG[1], Prof. Michael TAM[1],
Prof. Xiao Qiang YAO[1], Dr Yan JIN[2] & Ray LEE[3]
[1]School of Biomedical Sciences
[2]Teaching and Learning Resource Centre
[3]Information Technology Services Centre (ITSC)

Students have high expectations that the teachers within their discipline or within the university as a whole will effectively transmit knowledge to them and enhance their learning experience. Our student generation lives in an electronic, instantaneous and interactive world, and we teachers may be burdened by keeping pace with technological developments. On the positive side, we are constantly adjusting by actively ascertaining how

to use these technological advancements to maximise learning outcomes and simultaneously stimulate the interest and motivation to learn of the students.

In this project, we aim to surpass App-based tools by developing a highly interactive and innovative programme that will allow student users to apply their newly acquired understanding of the structure and function of the human lung to different case scenarios. This eLearning tool features an advanced three-dimensional (3D) lung model that can be manipulated virtually in space using simple gestures – a flip of the finger or even a wave of the hand. This technology is called Leap Motion. The student users will undergo a remarkable experience during which they will feel as if they are holding the lung model in 3D space; they will also be able to choose to view the model from different angles of orientation before proceeding with the physiology of the lung, and focusing on the concepts of pressure changes during breathing movements.

No 3D lung model combined with Leap Motion features has been developed elsewhere. Our 3D lung model is the first Leap Motion-based model to be introduced into academia.

29. The Development of Blended Learning with iOS Mobile Application in Teaching of Histology (P29)

Dr Florence Mei Kuen TANG[1], Prof. Kenneth Ka Ho LEE[1], Dr Isabel HWANG[1], Prof Paul LAM[2],
Ray LEE[3], Maggie WONG[3] and Miu Yung Olivia NGAN[4]
[1]School of Biomedical Sciences
[2]Centre for Learning Enhancement And Research
[3]Information Technology Services Centre
[4]School of Public Health and Primary Care

Studying in histology is clinically important to understand the etiology of tissue-related diseases and pathological changes in medicine. With the integration of eLearning, we developed an iOS mobile application on the topic of histology of bone for medical students (Hi-Med) as a pilot test, serving as blended learning materials with face-to-face lecture teachings. The aim of the lunch of Hi-Med App is to support histology teaching and learning through a novel mobile platform, fostering the idea of learning in without time-frame and geographical barriers.

Hi-Med app provides an animated interactive platform featuring two themes. The first theme is main pages, which presented materials with three-dimensional graphs that aim to assist student visualising and learning. The second theme is study quiz, which help students capture key topics learning by quizzing. The use of app not only provides convenient accessibility for learning, but also enhances personalised learning. Expectedly, students can access to eLearning materials before attending formal classroom teaching or tutorials, enhancing the ease of understanding material in the lecture.

The application of Hi-Med App is a new concept for the blended learning that helps in stimulating the effectiveness on students' learning outcomes.

30. The Development of Teaching Courseware for Blended Learning in Anatomy: A Pilot Study (P30, T15)

Dr Florence Mei Kuen TANG[1], Olivia M.Y NGAN[2], Dr Yan JIN[3], Alex YUNG[3], Joseph LEUNG[3], Daisy CHEN[4], Judy LO[4], Prinpom LAU[4] and Eva CHEUNG[4]

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[3]Teaching and Learning Resource Centre
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Anatomy teaching to allied professional students has now transformed to a new teaching approach called blended learning, which integrated face-to-face lectures with eLearning materials. This study aims to examine perceived attitude of blended learning with online pre-lecture video and revision quiz and its usage in studying Anatomy among students.

A convenience sample of 105 students in New Year 2 cohort enrolled in anatomy courses were invited to complete a self-administered survey, composed of questions in perceived usefulness of lecture video and revision quiz. A total of 85 students completed the survey with a response rate of 78.7%. Overall, 66% students found both pre-lecture video and revision quiz useful in doing revision. About half respondents found independent learning difficult without the assistance of eLearning materials. From the usage statistical analysis, students fully utilised pre-lecture video before attending in-class lecture, whereas access to revision quiz was continuously observed till the week for formative assessment.

Our study showed that students observed the advantage of blended learning and welcomed the expansion of digital courseware facilitating their independent and collaborative learning. Continuous development of blended learning courseware is encouraged in other topics and courses.

31. Mobile Learning @ CUHK in 2014 (P31)

Prof. Paul LAM & Kevin WONG
Centre for Learning Enhancement And Research (CLEAR)

The poster reports progress of the Mobile Learning @ CUHK in the year 2014. The project aims at development and consolidation of various mobile learning solutions which are then offered to all teachers and students in the University as well as provision of support and active dissemination of the mobile learning technology and pedagogy to fellow teachers and students.

In 2014, the student response system we have developed, "uReply" has begun to achieve widespread interest among the teachers at CUHK. uReply version 3 was launched with new functions including additional question types such as fill-in-the-blanks and Likert-scale questions. Usage was almost three times higher than compared with the previous year. Here are some quick latest usage figures extracted as of 29 September 2014:

- Over 400 teachers have registered to use the system.

- Page views recorded on the student interface was 278,825.

- Questions stored in Question Bank: 2082.

In 2014, we also continued to serve teachers on other mobile learning technologies such as the creation of eBooks.

32. Coming attractions: mobile learning tools for 2015 (P32)

Prof. Paul LAM & Kevin WONG
Centre for Learning Enhancement And Research (CLEAR)

The TDG project, Mobile Learning@CUHK, has an objective to develop and promote various mobile learning solutions among teachers and students in the University. Previous experience we had over the years has led us realise the needs of teachers and students in using the mobile technology to teach and learn. Our targets in 2015 include the followings:

- uReply Chat: A classroom chatting system for students to clarify ideas or ask questions during class

- uReply Float: A floating button for calling up uReply functions that is always on top of other windows on computer. This application thus enables teachers to show teaching resources (e.g. ppt) and students' responses to questions on uReply comfortably on one screen without the need to jump between windows.

- uReply Activity: A classroom response system with a 'game-like' twist. Classroom Q&A becomes competitive games and challenges. For example, the 'Level Challenge' activity challenges students' ability to stay in the game before losing all their 'lives'. The 'Speed Challenge' requires students to submit a correct answer in the shortest time.

Prototypes are ready for preview and we look forward to your comments.

33. "Chinese Materia Medica Memoriser" Smartphone Learning Platform (P33)

Michael CHUNG, Prof. Yuanan JIANG, Dr Vincent LEE, Dr Chi Sun NG & Winnie LEE
School of Chinese Medicine

Chinese Materia Medica (CMM) is a core course for the Bachelor Programme of Chinese Medicine that requires the students to memorise the properties of over 100 commonly-used herbs and medicinal agents. Memorisation of these data is essential for them to further courses such as Formulae of Chinese Medicine and discussion of classical or alternative usage of herbs. While rote memorisation is still the main method of

learning, students in the past used to create piles of paper flash cards by themselves for revision purpose. However, the production of hand-made paper cards is often inconvenient and not so effective.

With the increase in popularity in Smartphone, we are now creating "CMM Memoriser", a mobile learning platform which includes flash cards and other functions including eBook and quiz games. Students are more readily and encouraged to view the flash card repeatedly at anytime and self-report the learning progress. The eBook which contains brief information and photo of the herbs serves as a quick reference. The quiz game targets at the matching of the names and the particular natural properties of the herbs. All of these provide an interactive learning experience at the palm.

CMM Memoriser is available at https://campusapps.itsc.cuhk.edu.hk/store. The current project is funded by the ITSC Courseware Development Grant (2012-13).

34. "Meridian Illustrator" – The Interactive Acupuncture Textbook (P34)

Michael CHUNG[1], Prof. Yuan-an JIANG[1], Simon HO[2], Lilian LO[1] & Wendy FAN[1]
[1]School of Chinese Medicine, [2]Shaw College

The current project aims at establishing a portable visual aid for the learning of meridians and acupoints, the basic knowledge blocks of acupuncture. Currently students learn meridians through diagrams or plastic dolls. Yet, the former is difficult to demonstrate the spatial arrangement of the body, while the later is not convenient to carry with. Alternatively, it has been demonstrated previously the augmented reality (AR) technique could be helpful in projecting digital graphics (Ho et al, 2012). With the AR technique, users could project animations or three dimensional digital graphics that are merged with real pictures by scanning on the printed markers on a paper textbook, and could control the graphics at any angle by tilting the markers.

Meridian Illustrator is currently in progress and the demo version will be launched in Term 2, 2015.

The current project is funded by the ITSC Courseware development grant (2013-14).

35. Platform for Multimedia Educational Resources (PMER) (P35)

Dr David Lap Kei CHOW & Dr Fred Kei Tat KU
Department of Decision Sciences and Managerial Economics

In 2012, we started working on an innovative online platform, Platform for Multimedia Educational Resources (PMER) to facilitate more effective education, and to promote this new eLearning strategy to supplement traditional teaching.

PMER is intended to be a resource library accessible to both teachers and students to share quality teaching and learning (T&L) resources. The objectives of PMER are three-fold:

1. To enhance teaching and learning of economics and marketing by providing quality multimedia resources

2. To cultivate and nurture creativity through new and original ideas

3. To enrich students' techniques in multimedia technology

Our project PMER shall comprise three components, namely Teaching & Learning Resources, Creativity, and Video Basics:

•   Teaching & Learning Resources: Video resources to elaborate on core concepts with real-life and original examples

•   Creativity: Practitioners talk about the importance of creativity and innovative ideas

•   Video Basics: Supporting materials on practical aspects like filming, directing, and movie editing techniques

Surveys and focus group interviews were conducted in Spring 2014 to collect feedback from students on the platform. Students were generally positive on the use of video-based cases in their classes with a focus on achievement of learning outcomes.

36. Create Courseware for Enhancing Teaching and Learning (P36)

Judy LO, Daisy CHEN & Taylor TANG
Information Technology Services Centre (ITSC)

ITSC is helping with a TDG project titled "Development of a practical model to support teachers at CUHK to create courseware for enhancing teaching and learning". The project aims to develop a practical model to guide teachers at CUHK through the courseware development cycle and to provide teachers with methodologies, technologies, pedagogies, tools and training in how to develop micro-courseware modules to enrich their student learning experiences quickly and conveniently themselves. Come and have a look if you are interested in learning more about the project.

37. CU eLearning System User Forum (P37)

Prof. Paul LAM[1] & Judy LO[2]
[1]Centre for Learning Enhancement And Research (CLEAR),
[2]Information Technology Services Centre (ITSC)

To continue to improve CU eLearning System (currently powered by Blackboard Learn), we need your comments and advices. "CU eLearning System User Forum" is our first effort in building a user community at CUHK. The user community will be an important channel for us to listen to teachers' voices.

38. Lecture Recording Now Available in all Communal Classrooms (P50)

Edman CHAN
Information Technology Services Centre (ITSC)

We are glad to inform all CUHK teachers that lecture recording software has been installed in all communal classrooms since September 2014. Use of the service by CUHK teachers is free. To use the service in a classroom, teachers just need to follow the following steps:

1) Register the course beforehand through https://cloud.itsc.cuhk.edu.hk/webform/view.php?id=110049

2) Start the recording before the lecture

3) Stop the recording after the lecture

4) Publish the recording so that it goes to central streaming server

Apart from using the software in the classroom, teachers are actually also eligible to request a downloadable version of the software from us and install it on their PC/ Mac. Recordings made on personal computers can also be published to your same account on our streaming server.

For more details, visit the Lecture Recording Web Site

http://www.cuhk.edu.hk/eLearning/c_systems/echo360/index.html, or view the FAQ page at

http://www.cuhk.edu.hk/eLearning/c_systems/echo360/document/faq.pdf

39. Upgrading and Integrating IDEAL for Formative Assessments and Life Long Learning Skills Teaching in Paediatrics (P51)

Prof. Anthony NELSON[1], Prof. Simon LAM[1], Alex YUNG[2], Dr Yan JIN[2], Jenny FANG[3],
Churk CHAN[3], Stella CHOW[4], Prof. Anisha ABRAHAM[4] & Prof. Shekhar KUMTA[2]
[1]Department of Paediatrics, [2]Teaching and Learning Resource Centre,
[3]Medical Information Technology, [4]The Jockey Club School of Public Health and Primary Care

The Department of Paediatrics uses IDEAL for both student formative and summative assessments. Students with mentor support develop MCQs as part of teaching that aims to develop their life long learning skills (LLSK). An analysis of this teaching activity (2008/9 data) suggested that this programme has important benefits for both student learning and the overall teaching programme. The current version of IDEAL has technical limitations related to its use with current operating systems. The Department is moving towards a "flipped class room" approach for student lectures, some of which have been converted to articulate format and uploaded to Blackboard for student access. Despite inclusion of embedded quizzes and assessments, these articulates have not been well received by students and access of the material by students prior to teacher contact has been suboptimal. Better integration of all paediatric eLearning activities would enable better monitoring of student participation in these activities (LLSK, IDEAL and articulate lectures). Upgrading IDEAL is in progress and a single portal for students to access paediatric eLearning programmes has been developed. This portal provides one-stop access to formative assessments, articulate lectures, an online curriculum developed for patient education and the main Medical Curriculum website.

40. Analytical Methods in Physics: A Self-learning Project Using Micro-modules (P52)

Dr Man Ho CHAN & King Chun LAI
Department of Physics

Analytical methods are the language of physics. We introduce the basics of this language to our freshmen so that they can have sufficient preparation for the introductory physics courses. The analytical skills are introduced with the use of vivid examples that are relevant to physics. To help students in overcoming the language barrier, the narration of the videos is recorded in Cantonese with jargons in English.

41. Micro-modules for Freshman Physics (P53)

Dr Shiu Sing TONG, Prof. Kenneth YOUNG & Yik Hei LAM
Department of Physics

This project aims at producing a series of micro-modules for the freshman physics course PHYS1111 University Physics I. Video recordings of lectures are split into short modules which are linked up by a detailed roadmap. Students can choose which modules to study at a convenient time and according to their own learning pace. Exercises are provided to test their understanding and help them choose the right modules to study. Students in senior years can also use the modules to review the basic concepts before moving forward to more advanced topics. Part of the modules will be used in other freshman physics courses where deemed appropriate.

42. The Challenges and Implementation of Large-scale Courses and Quality Assurance Processes for the 9-Unit ELTU Programme (P44, T12)

Dr Jose LAI
English Language Teaching Unit

In line with the university-wide OBA initiatives for education reform, a 9-Unit outcomes-based English language curriculum was developed for all undergraduates at The Chinese University of Hong Kong, which accounts for around 10,000 students per year. The centerpiece of the new ELTU programme is the 4-3-2 'Mixed-content' model of compulsory nine units of English taking a total of 126 hours over three years. While the Year One foundation course prepares freshmen for academic use of English, the upper year courses are faculty-based and discipline-specific and to cater for specific language needs. All the courses are meant to be coherently articulated with reference to a unified outcome statement at the programme level.

Due to the large-scale nature of most courses (from several hundred to over a thousand students per course per term) which are delivered in parallel by many teachers, quality assurance is a huge challenge for the ELTU both at the programme and course levels. At the programme level, the challenge lies in ensuring the coherence of the three-tier programme from year 1 to year 3. Whereas, at the course level, standardisation of course content, mode of delivery and assessment, and grade moderation across multiple sections are some thorny issues to address. This talk outlines the conception and delivery of the 9-Unit ELTU programme, and underscores how the series of QA processes is implemented to monitor and ensure the effectiveness of individual courses as well as the entire programme.

TEA Corner (P38-P49)

Ambassadors of the Teaching Excellence Ambassador Programme

In the Teaching Excellence Ambassador (TEA) Programme, CUHK teachers who have demonstrated excellent teaching qualities, or have developed innovative pedagogical approaches, are invited to be Ambassadors. These Ambassadors will reach out to other frontline teaching members, as well as responsible personnel of academic programmes, to share teaching experiences, and to both share and disseminate effective teaching practices. This year, 12 projects engaged in the TEA Programme will be presented in the Expo.

A Case Study of Applying Interdisciplinarity in Teaching Urban Studies Program

Chung Yim YIU[1], Hendrik TIEBEN[2], Kuei-Hsien LIAO[2],
[1]Department of Geography and Resource Management, [2]School of Architecture

Urban Studies Programme (URSP) has been offered in the Chinese University of Hong Kong since 2012. It's mission is to provide "An Interdisciplinary Programme to Train Future Urban Leaders". This paper aims to identify the importance and challenges of a truly interdisciplinary programme on urban studies, and discuss the initial performance and achievements of the URSP programme as far as interdisciplinarity is concerned.

The paper is divided into six sections. The first section discusses the importance of interdisciplinarity in urban studies programme. Section 2 refers to one of the courses of the programme to highlight the implementation of interdisciplinary approach in teaching and learning. Sections 3 and 4 identify challenges of interdisciplinary approach, especially on the identification of key performance indicators and course evaluation methods. Finally, section 5 makes some conclusions.

1. Why Interdisciplinarity?

Urban issues involve people, place and process, and are therefore highly complicated and the factors affecting urban issues are inextricably intertwined. These factors could be related to history, climatology, technology, military, politics, sociology, anthropology, architecture, etc. In other words, it is an interdisciplinary issue.

Klein-Thompson (2010) highlights that there can be four levels of cross-disciplinarity, viz. (1) pluridisciplinarity, (2) multidisciplinarity, (3) interdisciplinarity, and (4) transdisciplinarity. Interdisciplinarity emphasises more on integrating, interacting, linking, focusing and blending of knowledge among various disciplines.

The Nuttfield Foundation puts forward two basic metaphors of interdisciplinarity – bridge building and restructuring. Thus, it is not only a linkage (bridge building) among disciplines, but it is also a detachment from the disciplines to form a new coherent whole (restructuring). Only by means of the restructuring can new knowledge and a new discipline be established.

2. A Case Study

"Studies of Cities in Comparative Perspective (URSP2400)" is a foundation course for all URSP students, co-taught by the three authors. Its course design together with its coursework delivery is an attempt to apply interdisciplinarity in studies of cities and to synthesise interdisciplinary information into a new discipline of knowledge.

The course investigates and compares different urban forms and their transformation over time. It identifies urban elements and their interrelation. The course aims to explain urban form. The course is taught by 4 professors from various disciplines, including an urban planner, an urban designer, a landscape architect and a surveyor. The syllabus uses a series of cases study, such as ancient cities, medieval and renaissance cities, industrial and modernist cities, socialist and capitalist cities, high density and sprawl cities, mega cities and urban slums, colonial and post-colonial cities, sustainable and unsustainable cities, etc., to illustrate the forces shaping urban forms by comparative perspective.

The coursework is one of the most important deliverables of the interdisciplinary approach of the course. The coursework is divided into two papers, paper 1 is an individual assignment requiring a student to develop his or her own framework to explain the urban form of a specified city. Since it involves a lot of factors from various disciplines in explaining the urban form of a city, the first paper serves the role of bridge building by requiring the students to explore information from many different disciplines so as to derive a framework to explain how the urban form is shaped.

Then, six students would form a group to develop a common framework which can explain all the six urban forms as far as possible. During the process, the students have to generalise their original framework to be able to explain more than one urban form.

It emphasises comparative perspective as the methodology to identify factors determining urban forms in a controlled natural experiment. An econometric model, coined as temporal-spatial differencing model, is also developed to illustrate how to use temporal and spatial comparisons to identify factors and control other factors. (Yiu, 2011) Similar approach has been adopted in Acemoglu and Robinson (2013).

Figure 1 shows the theoretical framework of the 2-level courseworks. It shows the two key learning processes, viz. (1) hypothesis identification and testing, and (2) generalisation.

Figure 1   Theoretical Framework of the 2-level Coursework
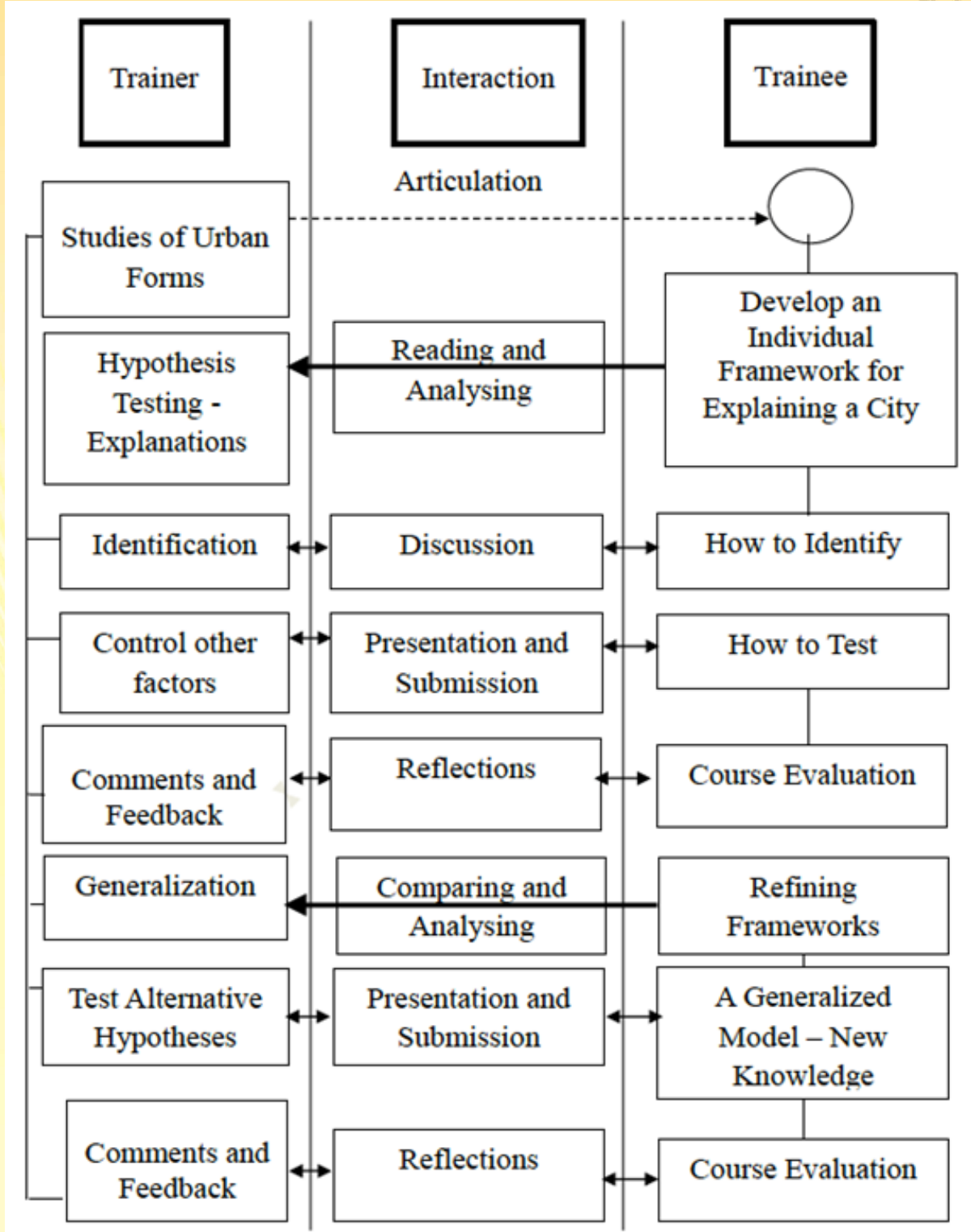
The approach of identifying and testing explanations is itself more related to scientific research methodology. However, the scope of the study is more about urban morphology, climatology, history, technology, economy and sociology, etc. The restructuring of all the information from these disciplines about the city to develop a testable hypothesis that can explain the urban form is itself a new knowledge via an interdisciplinary approach.

3. Key Performance Indicators

Performance indicators for an interdisciplinary programme would be very different from that of the traditional single disciplinary approach, as there are different criteria for different disciplines. Teachers on one hand do not have the experience in conducting interdisciplinary research or teaching, and students on the other hand do not know what are the differences between interdisciplinarity and monodisciplinarity.

When interdisciplinarity claims to be bridge building and restructuring, how to measure the performance is a challenge to the approach. Even when the students are exposed to knowledge from many different disciplines, it does not necessarily build the bridge to connect the knowledge into a network. What should be the key performance indicator(s) for measuring bridge building has not yet been agreed.

It is even more challenging to assess restructuring, because it is related to detaching knowledge from various disciplines and rebuilding a new coherent whole discipline. So far, there have not yet been any attempts to identify key performance indicators for measuring restructuring.

That is why the URSP2400 course tries to measure another two performance indicators, viz. (1) rigorousity, and (2) generalisation power. The paper 1 is an individual attempt to test the student's hypothesis rigorously. How well the model or framework can explain the urban form with good controls on other factors is one of the key performance indicators of the study. Then, the paper 2 is a group attempt to generalise the model or framework into a more generic one with a better explanatory power for more than one urban form.

4. Course Evaluation

Currently, course evaluation is on an outcome-based approach, which emphasises on the achievable outcomes, such as applying knowledge to solve a simple problem within a particular discipline. However, for interdisciplinary course, students are required to build linkages among knowledge from various disciplines and to restructure them into a new discipline or new knowledge, in other words, it is about knowledge creation rather than application of existing knowledge. The evaluation of interdisciplinary course should not focus on the acquisition of knowledge or the ability to apply the acquired knowledge to solve a related problem. It should be more on the ability to develop new hypotheses, to carry out comparison studies for testing the hypotheses rigorously, and to generalise the results into a generic model with high explanatory power.

For example, the expected outcomes of URSP2400 are as follows: After taking the course, students should be able:

1. To develop methods and frameworks to analyse and compare different urban forms and spaces;
2. To understand the conditions and processes which generate and transform these forms and spaces;
3. To appreciate the relationship of urban forms to specific historical events, cultural influences, institutional effects, individual designs and informal processes;
4. To understand common factors of urban transformation and appreciate the individual character of cities and districts.

Table 1 below shows the results of the course evaluation (course related questions only) when the course was firstly offered. All the responses are better than the department average, and some of them are close to full marks (6). It indicates the appreciation of the students after attending the course and conducting the courseworks. The best performers are the first and the last questions, i.e. the course was interesting and satisfaction with course. Both are 5.22 and about 7% higher than the department average. The highest absolute scores are questions number 2 and 3, both got 5.33, and are about 5% higher than department average. From their evaluation, it indicates that the students found the interdisciplinary outcomes clear and the assessment method of interdisciplinarity by means of the two papers appropriate. The results are very promising and further studies on this approach would be carried out.

2013-2014 Course Evaluation Results	Satisfaction with course	Dept Ave	Diff
The course was interesting	5.22	4.89	0.33
The course was stimulating	5.33	5.09	0.24
Subject knowledge is enhanced	5.33	5.12	0.21
The course was well-organised	5.06	4.81	0.25
Clear learning outcomes	5.11	4.87	0.24
Appropriate assessment method	4.89	4.68	0.21
Appropriate workload amount	4.72	4.31	0.41
Satisfaction with course	5.22	4.88	0.34

**Table 1   Course Evaluation Results 2013-2014**

5. Conclusions

Interdisciplinarity is a new idea in teaching and learning, but there is a need in urban studies because of the interdisciplinarity in nature of the subject. It is a challenge not only to teachers, but also to researchers and students. There has not been a consensus on the definition and key performance indicators of interdisciplinary approach. It is commonly mistaken as pluridisciplinarity or multidisciplinarity. On the contrary, interdisciplinarity should be more about integration, bridge building and restructuring. Yet, there are so far very few attempts to achieve true interdisciplinarity in urban studies. This paper introduces a course in the new programme of urban studies in the Chinese University of Hong Kong, and highlights the course design and performance as far as interdisciplinarity is concerned. A case study on the course is provided to illustrate a new approach in teaching and learning of urban studies in an interdisciplinary approach. The results of the evaluation of the course are very promising.

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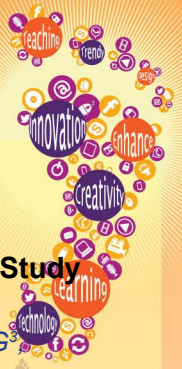
The Development of Teaching Courseware for Blended Learning in Anatomy: A Pilot Study

Dr Florence Mei Kuen TANG[1], Olivia Miu Yung NGAN[2], Jin YAN[3], Alex YUNG[3], Joseph LEUNG[3]
Daisy CHEN[4], Judy LO[4], Prinpom LAU[4] and Eva CHEUNG[4]

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Abstract

Anatomy teaching to allied professional students has now transformed to a new teaching approach called blended learning, which integrated face-to-face lectures with e-learning materials. This study aims to examine perceived attitude of blended learning with online pre-lecture video and revision quiz and its usage in studying Anatomy among students.

A convenience sample of 105 students in New Year 2 cohort enrolled in anatomy courses were invited to complete a self-administrated survey, composed of questions in perceived usefulness of lecture video and revision quiz. A total of 85 students completed the survey with a response rate of 78.7%. Overall, 66% students found both pre-lecture video and revision quiz useful in doing revision. About half respondents found independent learning difficult without the assistance of e-learning materials. From the usage statistical analysis, students fully utilized pre-lecture video before attending in-class lecture, whereas access to revision quiz was continuously observed till the week for formative assessment.

Our study showed that students observed the advantage of blended learning and welcomed the expansion of digital courseware facilitating their independent and collaborative learning. Continuous development of blended learning courseware is encouraged in other topics and courses.

Keywords: Anatomy, pre-lecture video, revision quiz, and blended learning

Background

Anatomy education is essential in learning the language of medicine [1], in which traditional face-to-face lectures and reading assignments are employed as the main teaching approach. However, its curriculum is very intensive that students reflected high level of frustration, particularly in studying anatomical structures, where students often encountered difficulties in understanding key learning contents after class in their independent learning.

Blended learning is a recent trend in teaching that integrates with e-learning platform with face-to-face teaching [2-4]. Build on a known cognitive load theory on working memory and learning process, literatures suggested that pre-lecture materials enable to stimulate acquisition of new information during in-class teaching, [5, 6] and facilitate critical thinking and higher-order learning [2, 12]. The cumulative effect of blended learning is also known as "flipped classroom", which help students achieve meaningful learning outcomes by giving out pre-assigned materials and then reinforcing concepts inside the class [7]. Many higher educations have started employed blended learning in institutions [8].

With increasing recognition on the advantages, the Chinese University of Hong Kong (CUHK), has set the development of teaching courseware as one of six strategic plans in facilitating student engagement in learning and promoting blended learning inside institution [9]. Blackboard Learn is a university-wide e-learning platform, supported by Information Technology Services Centre (ITSC) in CUHK. It is a common online platform that help facilitate interactive teaching and learning between teachers and students [10]. More importantly, Blackboard Learn is compatible with mobile operating systems, i.e Android and iOS systems, such that students are able to study course materials in a barrier-free environment anytime with handy tools.

In this paper, we have investigated the feasibility of implementing blended learning style in the Anatomy teaching. Providing pre-lecture materials and revision quiz are examples of blended learning, which provide students a medium to monitor learning progress, clarify learning goals, develop capacity on self-regulation, and encourage self-esteem [11]. A flow chart for the design of blending learning model is shown in Figure 1. In the model, pre-lecture video and revision quiz on selective topic in Anatomy courses was selected as blended learning materials before in-class teaching. However, perceived advantage and effectiveness of blended learning in Anatomy among students remain uncertain. By empirically identifying the online usage and attitude towards the courseware among students, we will be able to lead further discussion on expanding the integration of interactive learning in other topics of anatomy.

Figure 1. Flowchart for the design of the learning tools in the proposed blended learning.
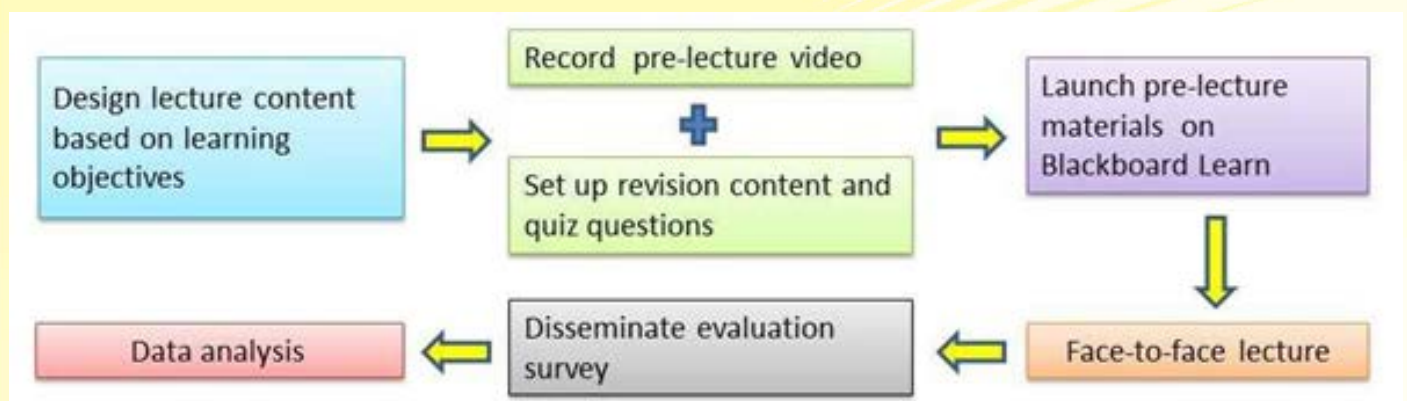
Methods and Participants

Anatomy part was newly integrated in two courses: Anatomy and Physiology I (PHAR1433) and Human Anatomy and Physiology I (SBMS 1431) for pharmacy and biomedical engineering students respectively. First lecture on the topic of "Introduction of Anatomy and Basic Tissues" has been selected for the pilot test, evaluating the utility of e-learning materials (pre-lecture video and revision quiz) in anatomy teaching.

Pre-Lecture Video Design

The pre-lecture video presentation was narrated and animated with PowerPoint slides that create documentary style informative production. It aims to provide primary materials on the topic and get students think about main ideas to be discussed in the lecture. The video was further sub-divided with different topics, in which students may view section-by-section according to owns needs. In total, the video consists of four sections as listed in the Table 1 and lasts 45 minutes long. The video was made available online in late-August, approximately a week before the scheduled face-to-face lecture. Commercial software suites of Camtasia Studio and Camtasia for Mac were provided by ITSC.

Table 1. The components of the Pre-Lecture Video

Sections	Topics
I	• Introduction to Anatomy • Body Plane and Cavity • The Building Block of Life
II	• Overview of Four Types of Basic Tissues • Epithelium
III	• Connective Tissue
IV	• Muscle and Nervous Tissue

Revision Quiz

An e-learning development tool of Articulate Studio® '13 (Articulate.com, NY, USA) was used to set up a self-paced interactive revision content and quiz questions. The software adopted an advanced technology, Sharable Content Object Reference Model (SCORM) [12], which is compatible with Blackboard Learn platform, enhancing the ease in the implementation and launch of tailor-made teaching courseware in CUHK. Accordingly, all students enrolled in both courses have full convenient access to this new educational program through Blackboard.

Recruitment and Sampling

The first lecture of Anatomy part in PHAR 1433 and SMBS 1431 shared same material content for the New Year 2 cohort students from School of Pharmacy, Faculty of Medicine and the Division of Biomedical Engineering, Faculty of Engineering. Approximately seven weeks after face-to-face lecture, a self-administrated survey was distributed to convenient sample of 108 students in two courses in-class.

Measures
Data Analysis

Univariate analyses were reported on survey responses. The statistical data of content usage statistics from the Blackboard Learn were also generated for analysis.

Results
Participants Characteristic

A total number 85 students participated in the survey with an overall response rate of 78.7%, of which 37 (43.5%) were Pharmacy students and 48 were (56.5%) from Biomedical Engineering students. Overall, the total number of access of pre-lecture video and revision quiz were 192 (93 counts from Pharmacy students and 99 counts from Biomedical Engineering students) and 1200 (388 counts from Pharmacy students and 812 counts from Biomedical Engineering students) respectively.

Perceived Advantage of blended learning materials

Table 2 described perceived attitude towards the use of teaching courseware among students. 64% respondents found both pre-lecture video and revision quiz are useful for independent learning and revision, where approximately half respondents found studying difficult without the support of e-learning materials. One fourth respondents were hesitated in the continuation use of video after lecture. Positively, about 60% would like to expand the e-learning materials on upcoming lectures.

Table 2. Attitudes towards Blended Learning Teaching Courseware

	Category	Agree	Neutral	Disagree
A	**Perceived usefulness of teaching courseware.**			
i	The pre-lecture video is useful in my learning	64%	19%	17%
ii	The self-study revision quiz is useful	64%	23%	13%
B	**Difficulties in the absence of courseware**			
i	I needed to work harder on other topics without the aid of pre-lecture video	55%	33%	12%
ii	I spent more time studying other topics as there was no revision quiz provided	47%	30%	23%
C	**Perceived Benefit of Courseware**			
i	I still watched the pre-lecture video after class as it helps me pick up important points	45%	31%	24%
ii	I felt that learning first lecture material was not difficult in an assistance of learning courseware	49%	32%	19%
D	**Positive reinforcement in Continuation of courseware development**			
i	I would like to ask for more pre-lecture video in 2nd semester	60%	29%	12%
ii	The self-study revision quiz must be kept for other topics	64%	26%	10%

Frequency Use of blended learning materials

The content usage statistics for both pre-lecture video and revision quiz were retrieved from Blackboard Learn and showed in Figure 2 and 3 respectively. Students have fully utilized pre-lecture video before attending face-to-face in-class lecture, where the peak access was observed a week before the lecture date. Although access to revision quiz before in-class lecture remained relatively low, continuous temporal access to revision quiz was observed and peaked in the week for formative assessment.
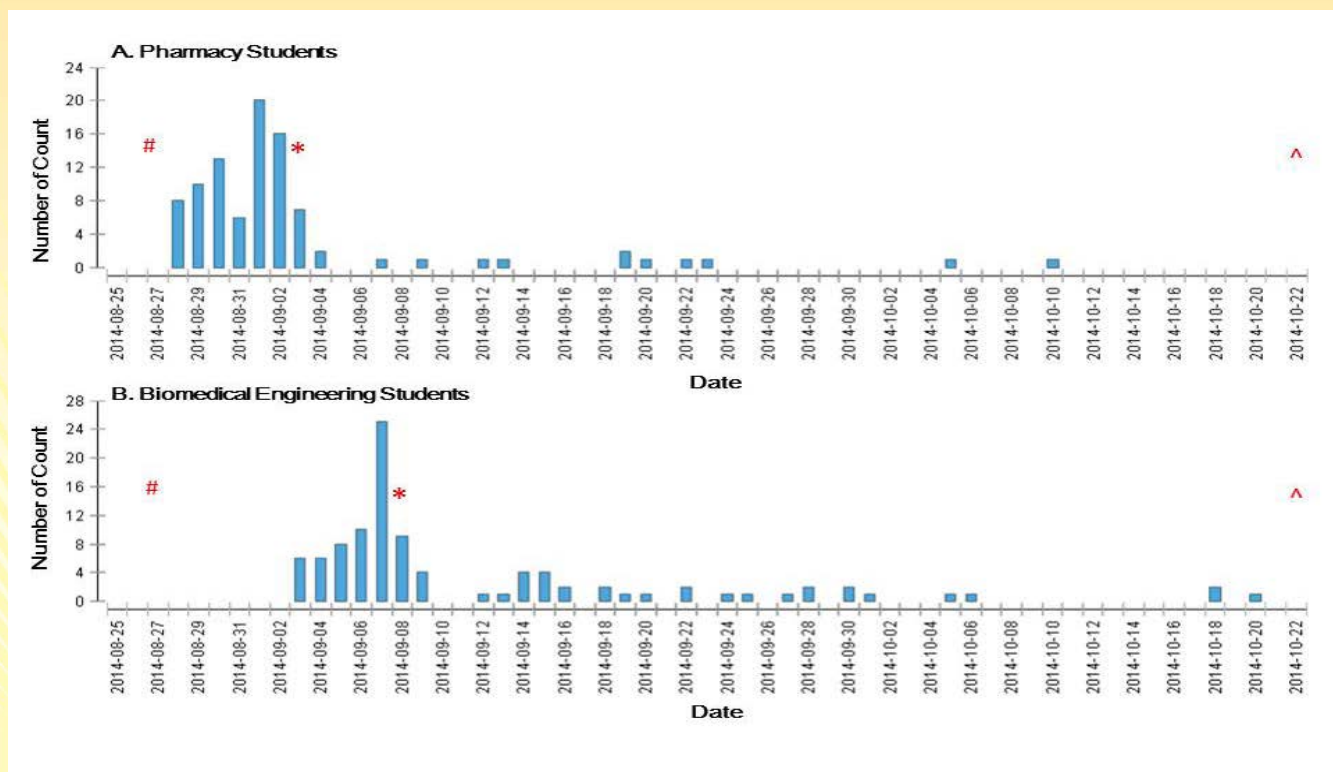

Figure 2. The content usage of pre-lecture video access by date. *The pound sign (#) indicates the launch of pre-lecture video on Blackboard Learn; the asterisk (*) indicates the date for face-to-face teaching; the caret sign (^) indicates the date for survey dissemination. Figure 2A shows the temporal access to video by Pharmacy students. Figure 2B shows the temporal access to video by Biomedical Engineering students.*
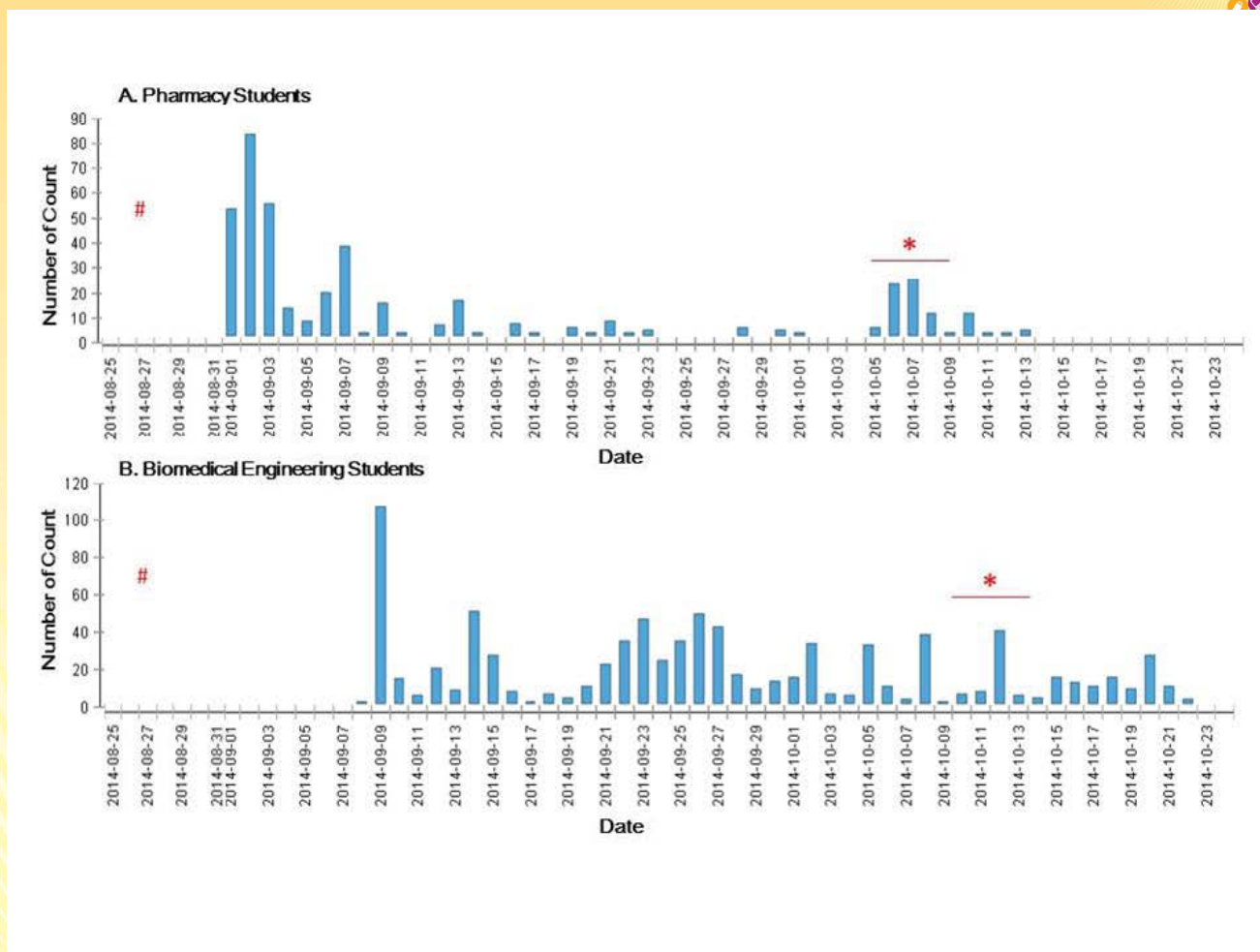
Figure 3. The content usage of revision quiz access by date. *The pound sign (#) indicates the launch of pre-lecture video on Blackboard Learn; the asterisk (*) indicates the duration for formative assessment. Figure 3A shows the temporal access to revision quiz by Pharmacy students. Figure 3B shows the temporal access to revision quiz by Biomedical Engineering students.*

Discussions

This study, to the best of our knowledge, is the first pilot studying the effectiveness of blended learning teaching courseware among allied health professional students in CUHK. Human Anatomy is a major course subject that is mandatory to all allied health professional students. With our past experience, students, however, found major difficulties and challenging in studying this subject. We explored the views of students' perceived learning efficiency with and without use of teaching courseware and there are several key pointes to be addressed from the finding of the study. Overall, students are quite positive in the integration of pre-lecture e-learning with formal lectures and found it helpful in facilitating their understanding of learning outcomes. Although the usefulness of pre-lecture materials after class remain debatable, in which about few students expressed opposite voice in the continuous use of courseware after class, students widely accepted blended learning and welcome further expansion of topics to be covered in upcoming semesters. Feasibly, we can refine the depth of the lecture materials to be covered in the video as well as the difficulty level in quiz questions that could help encourage continuous use of courseware after class.

Alternatively, students fully utilized study quiz for revision as it intended for, in which on-and-off peak accesses were observed during the week of formative assessments, reflecting the perceived advantage of revision quiz in evaluate their study progress and the depth of their understanding in the topic before sitting examinations. Similar to another study [13], students in this cohort, with the availability of blended learning courseware, showed good improvement in grades in formative assessment results than previous years students. Expansions in the integration blended learning activities into other lectures are positively reinforced.

There are several limitations to the current study. This was a cross-sectional survey that variability among individuals was possible due to former education exposure, in which these data may not be generalizable to the overall students in Hong Kong. Perhaps, a quantitative survey alone might not achieve the aim of examining the perceived advantage and disadvantage of blended learning in Anatomy, further investigation by qualitative studies possibly could help filling in the gap of the development of teaching courseware.

Conclusions

Our study showed widely acceptance in the pilot use of pre-lecture video and revision quiz in the blended learning activities among students. Continuous development of blended learning courseware is encouraged in other topics and courses.

Acknowledge

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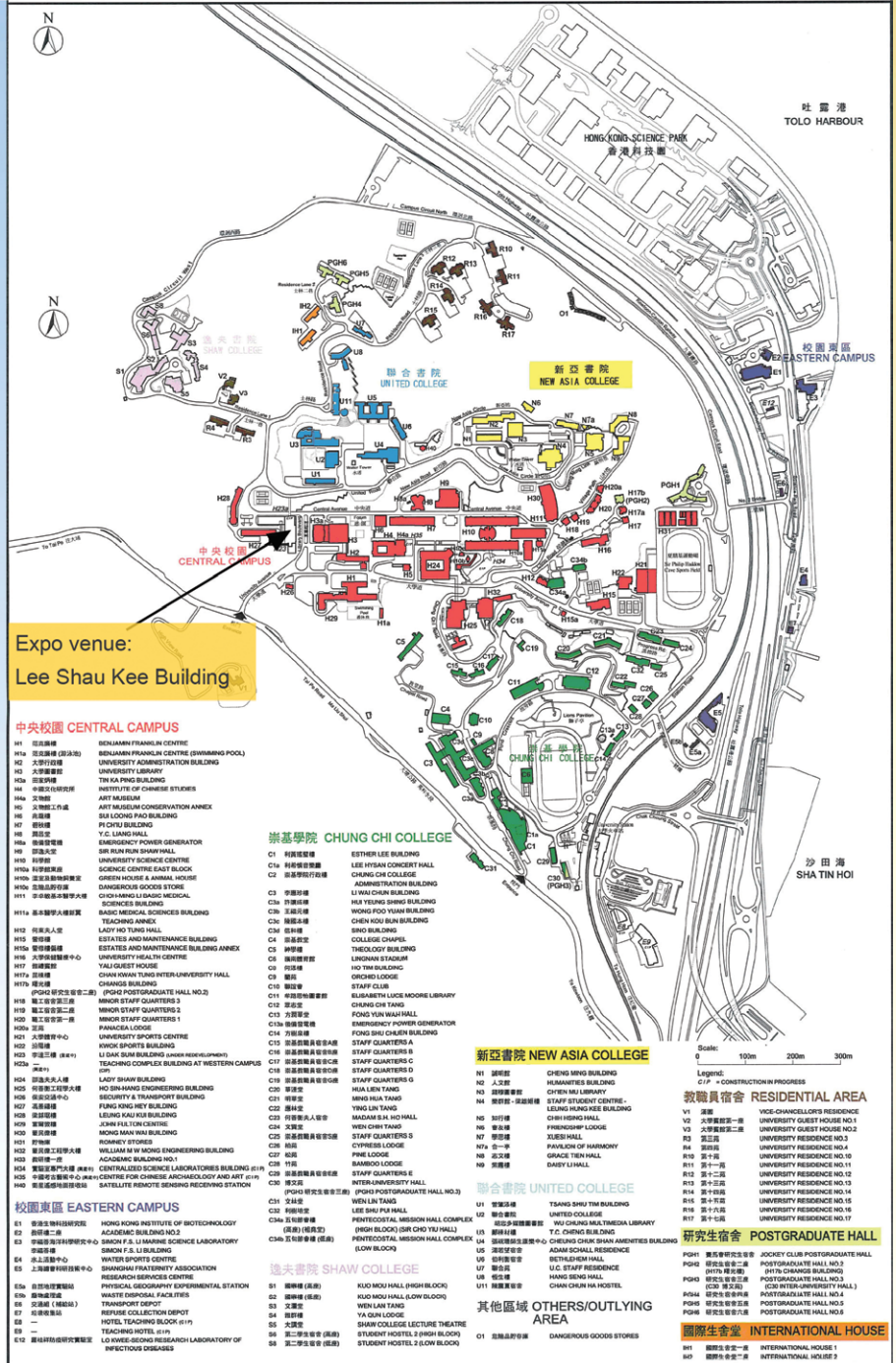
Map of conference venue
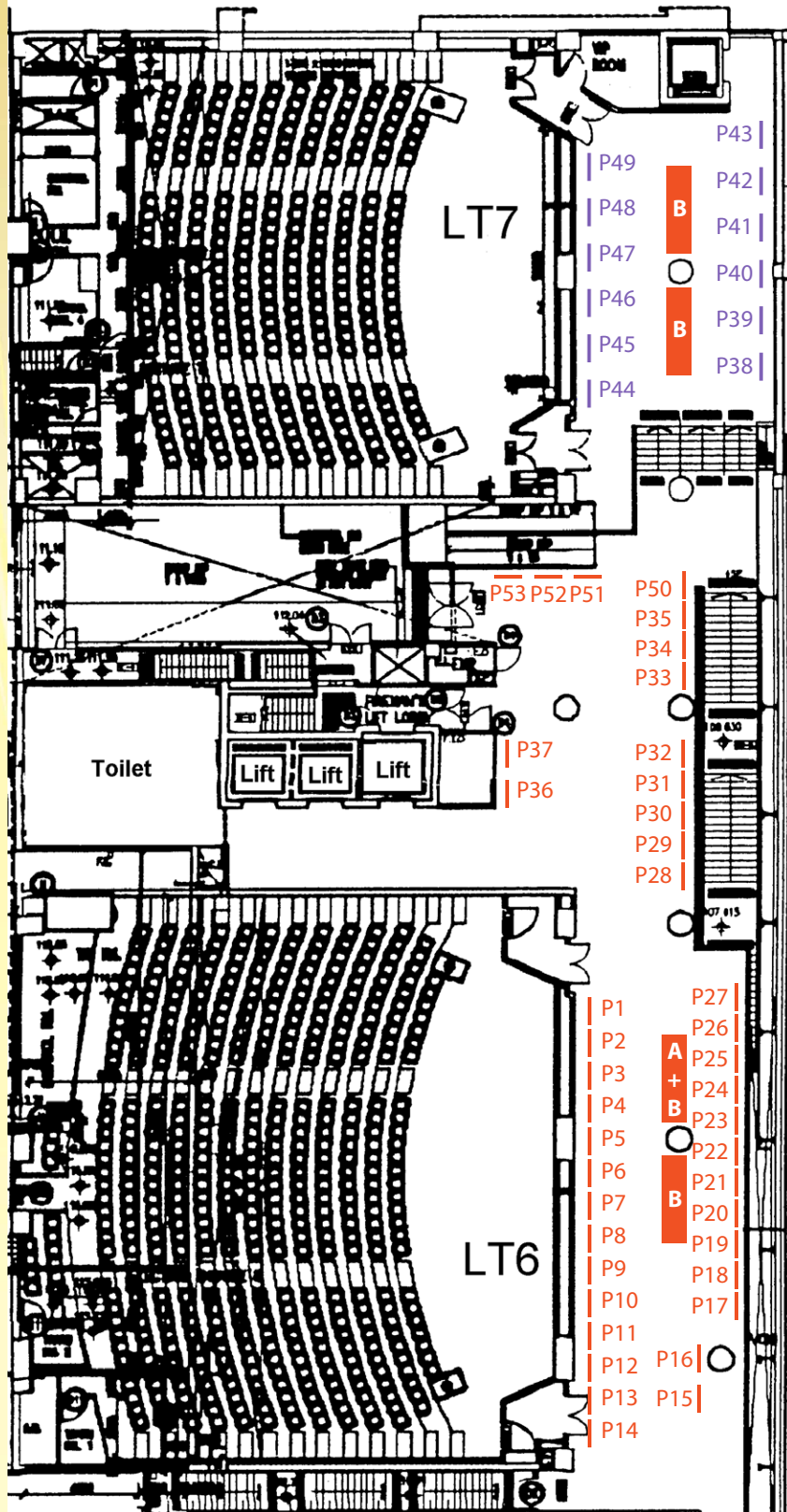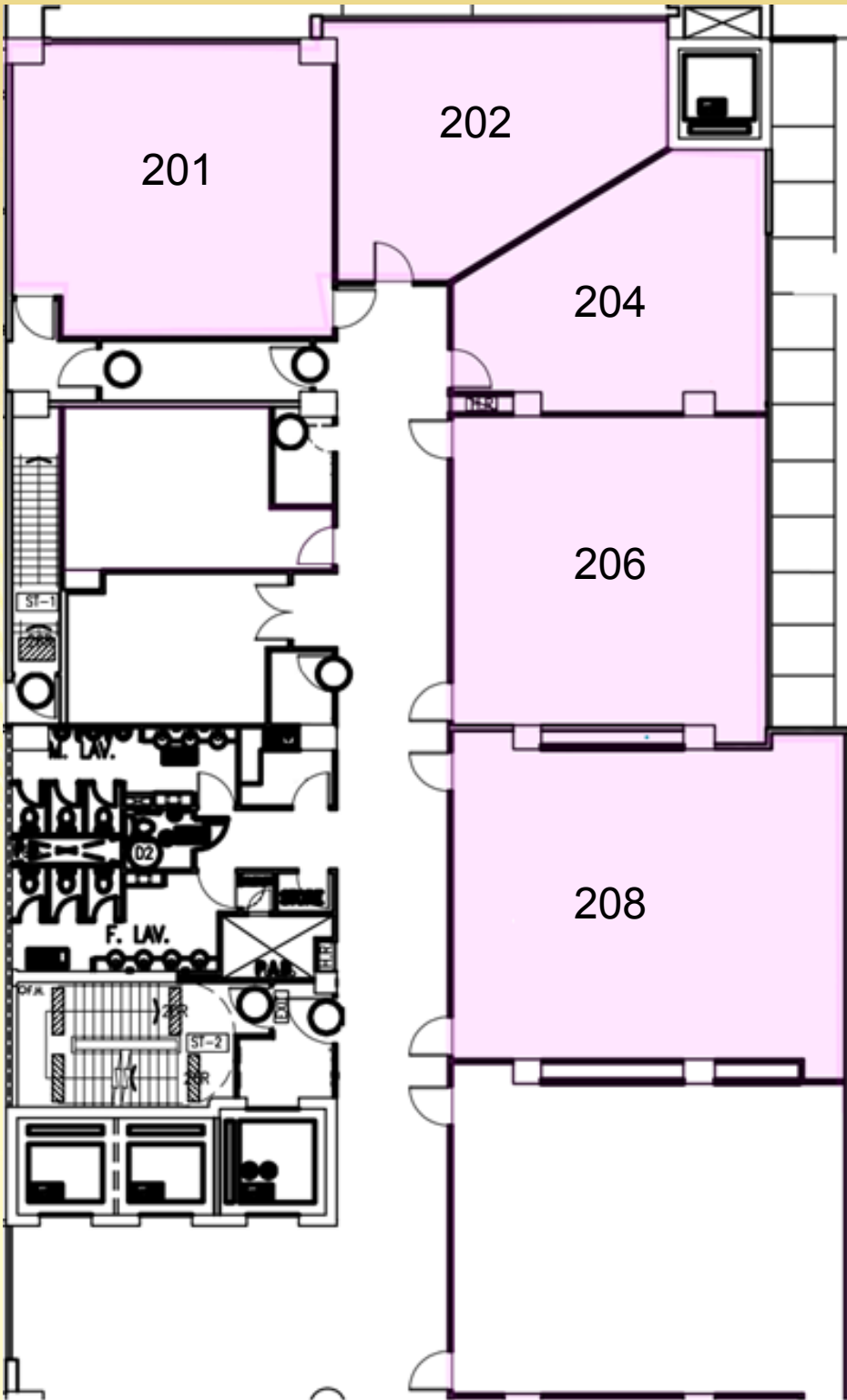
Lee Shau Kee Building, CUHK

Lee Shau Kee Building

Expo venue:
Lee Shau Kee Building

Floor plans of conferece venue (1/F, Lee Shau Kee Building)

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TEA Corner

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Toilet

Lift Lift Lift

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LT6

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A + B

B

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A: Registration
B: Refreshment

2/F, Lee Shau Kee Building

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