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Message from the President

Professor CHEUNG Yan Leung Stephen
President, The Education University of Hong Kong

It is my pleasure to welcome you all to the second International Conference on Learning and Teaching (ICLT 2021), with the theme of "Learning and Teaching for Future Readiness".

The first ICLT was organised in 2020, when the education sector was facing unprecedented challenges during the COVID-19 pandemic. It has led universities to implement new ways of learning and teaching, from conducting classes synchronously online to performing alternative assessments and field experience supervision. In our attempt to look far into the future, the ICLT 2021 provides a platform for academics, researchers, practitioners and professionals in the education sector to come together to share their experiences gained in the past year, as well as their insights for future development.

I am grateful that we are able to have four renowned and forward-looking experts joining the Conference as keynote speakers this year. They are Professor Bruce MACFARLANE of The Education University of Hong Kong, Professor David TOURETZKY of Carnegie Mellon University, Professor Ross PARRY of University of Leicester, and Professor Kristján KRISTJÁNSSON of University of Birmingham. There are also Symposia on different topics, such as entrepreneurship, museum education, positive education, and the recently released future classrooms at the Library. We hope these symposia can inspire the participants and lead to further innovation and collaborations in the sector.

The University ranked third in Asia and 16th in the world in education, according to the 2021 QS World University Rankings by Subject. It is believed that through cross-institutional collaborations, we can work with more local and overseas experts and practitioners to nurture outstanding educators and professionals for the development of the region and beyond.

I would like to express my heartfelt thanks to the keynote speakers, participants and members of the Organising Committee for their unfailing support and making this meaningful Conference happen. I wish ICLT 2021 a great success and all participants a fruitful and rewarding experience.

Message from the Vice President (Academic) and Provost

Professor LEE Chi-Kin John
Co-Chair, International Conference on Learning and Teaching 2021
Vice President (Academic) and Provost, UNESCO Chair in Regional Education Development and Lifelong Learning
The Education University of Hong Kong

I am pleased to announce that the International Conference on Learning and Teaching 2021 (ICLT 2021), comprising inspiring keynote speeches and symposia of different themes will take place on 8-10 December 2021.

In the past academic year, we have seen new teaching approaches and a change in ways teachers interact with their students. Different stakeholders worked together to make learning outside classroom settings possible. Though schools have resumed face-to-face lessons, we witnessed some deeper shifts in the value placed on virtual and blended teaching and learning. The theme of ICLT 2021 "Learning and Teaching for Future Readiness" allows scholars to consolidate and reflect on the lessons learned, as well as to find the way forward. The Conference focuses on (i) Virtual and Blended Teaching and Learning, (ii) Quality in Higher Education Management, Teaching and Learning, (iii) STEM Education and Artificial Intelligence Education, (iv) Future Classroom and Next Generation Learning Environment, (v) Heritage and Museum Education, and (vi) Positive and Values Education.

We are honoured to have four experts – Professor Bruce MACFARLANE, Chair Professor of Educational Leadership and Dean of the Faculty of Education and Human Development of The Education University of Hong Kong, Professor David TOURETZKY, Research Professor, Computer Science Department and the Center of the Neural Basis of Cognition of Carnegie Mellon University in the United States, Professor Ross PARRY, Deputy Head of School and Professor of Museum Technology of University of Leicester in the United Kingdom, and Professor Kristján KRISTJÁNSSON, Professor of Character Education and Virtue Ethics and Deputy Director of the Jubilee Centre for Character and Virtues of University of Birmingham in the United Kingdom – to share with us the latest progress and insights in the said areas.

Finally, I would like to express my appreciation to the guests, colleagues and students supporting ICLT 2021. My heartfelt gratitude goes to the Organising Committee, led by the Centre for Learning, Teaching and Technology (LTTC), Faculty of Education and Human Development (FEHD), Faculty of Humanities (FHM), Faculty of Liberal Arts and Social Sciences (FLASS), and Graduate School (GS), which make ICLT 2021 a success. I hope you find the Conference fruitful and inspiring. Thank you.

Vote of Thanks by the Co-Chair of ICLT2021

Professor KONG Siu-Cheung
Co-Chair, International Conference on Learning and Teaching 2021
Professor, Department of Mathematics and Information Technology
Director, Centre for Learning, Teaching and Technology
The Education University of Hong Kong

The International Conference on Learning and Teaching 2021 (ICLT 2021) will be launched with the theme "Learning and Teaching for Future Readiness" on 8-10 December 2021. This is the second International Conference on Learning and Teaching, and with the continuous support of the Senior Management, Faculties, Departments, Graduate School, and Academic Support Units and all participants, the Conference has attracted more submissions and participation than last year. I would like to thank them for their contribution and unfailing support.

I am grateful for the participation of Professor Bruce MACFARLANE, Professor David TOURETZKY, Professor Ross PARRY, and Professor Kristján KRISTJÁNSSON as our keynote speakers to share their insights on future trends in their respective expertise areas. I would also like to express our deepest gratitude to the Programme Committee Co-chairs of ICLT 2021 – Professor CHENG May Hung May, Professor YU Kwan Wai Eric, Professor TSANG Po Keung Eric, Dr CHENG Po Ying Sidney, and Dr HUI Yan Keung John – and members of the Local Organising Committee – Mr CHU Tsz Wing, the Chief Headmaster of St. Hilary's Kindergarten and Primary Section, and Mr HA Chi Hung, Technology Director of True Light Middle School of Hong Kong and the President of FlippEducators@HK.

Furthermore, a round of applause should be given to the strand coordinators, Dr CHAN Ka Shing Kevin, Dr CHEN Junjun, Dr CHENG Kwok Shing Gary, Dr CHOW Sin Yin Alice, Dr FOK Lincoln, Dr HUI King Fai Sammy, Dr JIANG Da, Dr LAM Sin Manw Sophia, Dr LAM Wai Man Winnie, Dr LO Tin Yau Joe, Dr WU Siu Wai, Dr YEUNG Chi Ho Bill, Professor YU Leung Ho Philip, Dr YUNG Wai Ho Kevin, who have reviewed over 150 abstracts received for ICLT 2021. Special thanks also go to our colleagues from the Centre for Learning, Teaching and Technology (LTTC) for their tremendous efforts to organise such a smooth and informative Conference.

I wish you all a fruitful experience at ICLT 2021. Thank you.

Organising Committee

International Conference on Learning and Teaching 2021 Organising Committee

Conference Co-Chairs	Professor LEE Chi-Kin John Professor KONG Siu-Cheung
Programme Committee Co-Chairs	Professor CHENG May Hung May Professor YU Kwan Wai Eric Professor TSANG Po Keung Eric Dr CHENG Po Ying Sidney Dr HUI Yan Keung John
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Conference Secretariat	Ms CHAN Shui Fan Trudi Ms CHANG Hei Laam Helen Ms CHEUNG Wai Yin Nikita Ms KAM Lok Sze Iris Ms MA Yunsi Tina Mr NG Chi Nok Dennis

Programme

Introduction

The International Conference on Learning and Teaching 2021 to be held from 8 to 10 December 2021 features four keynote speeches by Professor Bruce Macfarlane, The Education University of Hong Kong, Professor David Touretzky, Carnegie Mellon University in the United States, Professor Ross Parry, University of Leicester in the United Kingdom, and Professor Kristján Kristjánsson, University of Birmingham in the United Kingdom. Please visit our Conference website for more information: https://www.eduhk.hk/iclt2021/.

8 December 2021 (Wednesday) // 09:00 – 17:10 // Online via Zoom

Time	Programme					
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09:50 – 10:10	Session 1.2	Session 2.2	Session 3.2	Session 4.2		
10:10 – 10:30	Session 1.3	Session 2.3	Session 3.3	Session 4.3		
	Room 1	**Room 2**	**Room 3**	**Room 4**	**Room 5**	**Room 6**
10:30 – 10:50	Session 5.1	Session 6.1	Session 7.1	Session 8.1		Symposium 2
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11:40 – 12:00	Opening Ceremony					
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13:00 – 14:00	Lunch					
Afternoon Session						
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14:20 – 14:40	Session 9.2	Session 10.2	Session 11.2	Session 12.1		
14:40 – 15:00	Session 9.3	Session 10.3	Session 11.3	Session 12.2		
	Room 1	**Room 2**	**Room 3**	**Room 4**	**Room 5**	**Room 6**
15:00 – 15:20	Session 13.1	Session 14.1	Session 15.1	Session 16.1	Session 17.1	
15:20 – 15:40	Session 13.2	Session 14.2	Session 15.2	Session 16.2	Session 17.2	
15:40 – 16:00	Session 13.3	Session 14.3	Session 15.3	Session 16.3	Session 17.3	
16:00 – 16:10	Break					

	Room 1	Room 2	Room 3	Room 4	Room 5	Room 6
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9 December 2021 (Thursday) // 09:00 – 17:15 // Online via Zoom

Time	Programme				
Morning Session					
09:00 – 09:30	Registration				
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09:50 – 10:10	Session 22.2	Session 23.2	Session 24.2	Session 25.2	Symposium 5
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	Room 1	**Room 2**	**Room 3**	**Room 4**	**Room 6**
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16:15 – 17:15	Keynote Speech 4 – Professor Ross PARRY				

10 December 2021 (Friday) // 09:00 – 16:30 // Online via Zoom

Time	Programme				
Morning Session					
09:00 – 09:30	Registration				
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	Room 1	**Room 2**	**Room 3**	**Room 4**	**Room 6**
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12:50 – 14:00	Lunch				
Afternoon Session					
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Timetable - Keynote Speech, Symposium and Parallel Session

8 December 2021 (Wednesday) // 09:00 – 17:10 // Online via Zoom

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9 December 2021 (Thursday) // 09:00 – 17:15 // Online via Zoom

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Detailed Information of Keynote Speakers

Educating Children in an Age of Somewhat Intelligent Machines

8 December 2021 I 12:00 – 13:00

Professor David Touretzky
Research Professor, Computer Science Department
and the Center of the Neural Basis of Cognition,
Carnegie Mellon University, USA

Abstract

Today's children are growing up in a world where, for the first time, machines can see and hear, understand some language, and perform many specialized reasoning tasks that make our lives better. In fact modern life is permeated by AI-powered technologies, with more on the way. As our levels of automation increase, major societal changes are on the horizon, and governments world-wide are recognizing the importance of children understanding how AI works. In the US, the AI4K12 Initiative (AI4K12.org) is developing national guidelines for teaching AI in K-12.

In this talk I will try to anticipate some of the effects of early AI education. Just as the advent of inexpensive computers and child-friendly programming environments have allowed us to introduce young children to computational thinking, new tools and computing resources are making it possible for children to directly engage with advanced AI technologies, and in doing so, develop skills for "AI thinking". Computer vision, machine learning, language understanding models, and autonomous mobile manipulators are coming not just to high school, but to elementary school. Educators must determine how best to integrate these technologies into the curriculum, and how the study of artificial intelligence can deepen our appreciation of what it means to be human.

Biography

David S. Touretzky is a research professor in the Computer Science Department and the Neuroscience Institute at Carnegie Mellon University in Pittsburgh, Pennsylvania. As founder and chair of the AI4K12 Initiative (AI4K12.org), he is leading the effort to develop national guidelines for teaching artificial intelligence in K-12 in the US.

Dr. Touretzky is also the developer of Calypso, an intelligent robot programming framework that makes sophisticated artificial intelligence tools accessible to children.

Pandemic Learning and Teaching Policies and the Freedom to Teach

9 December 2021 I 10:45 – 11:45

Professor Bruce Macfarlane
Chair Professor of Educational Leadership and
Dean of the Faculty of Education and Human Development,
The Education University of Hong Kong

Abstract

The effects of the Covid-19 pandemic on university teaching have mainly been discussed in relation to the technological capability of academics; teaching whilst working from home surrounded by other distractions and responsibilities, such as childcare; the robustness of the IT infrastructure of universities; and the extent of student access to computing equipment and broadband speed. Concerns about the mental health of students and academic faculty have also been rightly highlighted.

However, the effects of university policies on the freedom to teach have been largely overlooked. By the freedom to teach I am referring to the extent to which academics are able to design their own curriculum and pedagogic approach. This freedom is more rarely discussed in the literature on academic freedom because it has been largely taken-for-granted on the basis of a tradition of pedagogic self-governance in higher education.

During the pandemic the freedom to teach has been eroded, variously, by the streamlining of the curriculum, resulting in larger core or compulsory courses and correspondingly fewer optional courses that reflect the research specialism of academics; through top-down policies about how to teach online; through centralising control of decisions regarding extenuating circumstances affecting students; through the use of learning platforms designed not by academics but by EdTech companies; and by employing fewer academics on contracts that incorporate research. These policies are changing what it means to be a university teacher as opposed to a school teacher with far less autonomy in respect to making judgments about what to teach and how to do so.

Biography

Bruce Macfarlane is Chair Professor of Educational Leadership and Equity and Dean of the Faculty of Education and Human Development at the Education University of Hong Kong. He is a former Head of the School of Education at the University of Bristol, and a former Associate Dean in the Faculty of Education at the University of Hong Kong. He has held visiting professorial positions in Australia, Japan, South Africa and Sweden.

Professor Macfarlane is a social philosopher of higher education who has developed conceptual frameworks for interpreting academic practice, ethics, and leadership. Applying a mix of empirical and philosophical enquiry, he has helped to define key concepts including academic integrity, academic citizenship, intellectual leadership, and student performativity.

His research focuses on the micro or individual level but is framed by the way academic identity is being re-shaped by the changing conditions affecting university life. His major works include Freedom to Learn (2016), Intellectual Leadership in Higher Education (2012), Researching with Integrity (2009), The Academic Citizen (2007) and Teaching with Integrity (2004).

Transgressing Boundaries: Developing Attitudes and Actions for Sustainable Development

9 December 2021 I 15:10 – 16:10

Professor Kristján Kristjánsson
Professor of Character Education and Virtue Ethics
and Deputy Director of the Jubilee Centre for Character and Virtues,
University of Birmingham, UK

Abstract

In this presentation, Professor Kristjánsson gives an overview of those three different approaches in the field of values and education. He talks about their various sub-forms and then explores the pros and cons of each form and how they play out in classroom practice. He focuses on both overlaps and tensions between the three approaches and also mentions their political implications.

Biography

Kristján Kristjánsson is Professor of Character Education and Virtue Ethics and Deputy Director of the Jubilee Centre for Character and Virtues, University of Birmingham, UK. His research orientation is that of Aristotle-inspired philosophical scrutiny of theories in educational psychology and values education, with special emphasis on the notions of character and virtuous emotions. He has written extensively on themes in general education, moral education, educational psychology, moral philosophy and political philosophy. Professor Kristjánsson is the author of Social Freedom (C.U.P., 1996), Justifying Emotions: Pride and Jealousy (Routledge, 2002), Justice and Desert-Based Emotions (Ashgate, 2006), Aristotle, Emotions and Education (Ashgate, 2007), The Self and Its Emotions (C.U.P., 2010), Virtues and Vices in Positive Psychology (C.U.P., 2013), Aristotelian Character Education (Routledge, 2015), Virtuous Emotions (O.U.P., 2018) and Flourishing as the Aim of Education (Routledge, 2020). Prof. Kristjánsson has published over 130 articles in international journals and is the Editor of the Journal of Moral Education. In 1997, he was elected the Young Humanities Scholar of the Year by the Icelandic Council of Science, and in 2011 he was presented with the Ása Guðmundsdóttir Wright Award, the most prestigious scholarly award given to an Icelandic academic across the Sciences and Humanities. In 2016 he won the Society for Educational Studies Prize for the best Education book of 2015 (Aristotelian Character Education). His 2012 book has appeared in a Korean translation and his 2015 book has been translated into Japanese and it currently being translated into Chinese.

Heritage and Museum Education for a Meta-modern Age

9 December 2021 I 16:15 – 17:15

Professor Ross Parry
Deputy Head of School & Professor of Museum Technology,
University of Leicester, UK

Abstract

Much like the museum itself, education provision in the heritage sector will always be a work in progress. Just as the ideas of 'museum' and 'heritage' stay in motion, so their relationship with learning never settles. They find new channels through which to communicate, new tools through which to collaborate, new pedagogies from which to draw inspiration and confidence. And as they do, so their role in education and learning is re-assembled and re-balanced - from instructor to ally, from venue to platform, from resource to studio.

And yet, given the turbulence of current intersecting global crises (ecological, medical, cultural), and given this time of an ever-mediatised sector in an ever-dataful world, there's no more appropriate time to take stock of what characterises the alchemy of 'museum and heritage education'.

This keynote will propose one way of noticing shifts (in this meta-modern and post-digital moment) in professional practice and scholarly discourse around learning technology in museums and heritage. In terms of 'products', and WHAT museum and heritage education produces: a shift from producing instructive guides and handbooks, to now developing enabling tools (open and adaptable). In terms 'people', and WHO leads learning technology: a shift from the lauded technical competencies of the first adopters, to now the lived cultural experiences of multiple allies across the sector and society. In terms 'principles', and WHY this work exists: a shift from technology-centred, problem-based, progress-led activity, to people-centred, context-based, values-led activity. In terms of 'places', and WHERE this work takes place: a shift from closed projects, to an open commons of discourse and activity. And In terms of 'process', and HOW research and reflective practice develops: a shift from the accumulative synthesis of investigative experiments, to the responsive sprints of active campaigning.

Biography

A Principal Fellow of the Higher Education Academy, former Tate Research Fellow, and former chair of the UK's national Museums Computer Group, Ross is also one of the founding Trustees of the Jodi Mattes Trust - for accessible digital culture. In 2018 he was listed in the Education Foundation's 'EdTech50' – the fifty most influential people in the UK education and technology sectors.

Ross served on the International Scientific Advisory Board for 'Learning 2.0' managed by DREAM (the Danish Research Centre on Education and Advanced Media Materials) at the University of Southern Denmark, where in 2012 he was visiting professor. From 2017 to 2021 he served on the International Advisory Board for the €6mn 'Our Museum' project, funded by Nordea-Fonden and Velux Fonden. Today he is a member of the UK Research and Industry's Steering Committee of its £19mn digital cultural heritage initiative 'Towards a National Collection'.

Ross' recent books include: 'Museum Thresholds: the design and media of arrival' edited with Ruth Page and Alex Moseley (Routledge, 2018); and 'The Routledge Handbook of Media and Museums' (2019), edited with Kirsten Drotner, Vince Dziekan, and Kim Schrøder. Ross is the author of 'Recoding the Museum: Digital Heritage and the Technologies of Change' (Routledge 2007), and in 2010 published 'Museums in a Digital Age' (also with Routledge).

Ross leads the 'One by One' international consortium of museums, professional bodies, government agencies, commercial partners and academics, that together are working to build digitally confident museums. After a three-year national project in the UK (working with the UK's Museums Association, Arts Council England and the National Lottery Heritage Fund), the consortium's latest project ('Modelling New Digital Leadership in Museums') now brings partners including the V&A, Science Museum and the UK's Museums Computer Group into an action research collaboration with the Smithsonian Institution, American Alliance of Museums and the US Museum Computer Network.

Detailed Information of Symposia

The Establishment of a Community of Practice (CoP) to Promote Technology-enhanced Language Learning and Teaching

8 December 2021 I 09:30 – 10:30

Co-Chair
Dr WANG Lixun
Department of Linguistics and Modern Language Studies
The Education University of Hong Kong

Co-Chair
Dr CHEN Hsueh Chu Rebecca
Department of Linguistics and Modern Language Studies
The Education University of Hong Kong

Ms WONG Lai Kwan Mag
Department of Linguistics and Modern Language Studies
The Education University of Hong Kong

Ms TIAN Jingxuan
Department of Linguistics and Modern Language Studies
The Education University of Hong Kong

Abstract

To promote technology-enhanced language learning and teaching in higher education, a Community of Practice (CoP) on technology-enhanced language learning and teaching (TeLLT) has been established across four universities (EdUHK, HKU, CUHK, HKBU) in Hong Kong. In order to find out students' and teachers' experiences and views on TeLLT, surveys and interviews were conducted among students and teachers across the four universities, and the findings will be reported in this symposium, such as the e-resources/tools students and teachers commonly and frequently used in language learning and teaching, the participants' perceptions of TeLLT, the challenges that the participants had faced, and what support they needed regarding TeLLT. The CoP team members will also introduce a newly developed E-hub for Technology-enhanced Language Learning and Teaching, which shares learning and teaching resources on TeLLT. In addition, the activities organized by the CoP, such as the teachers' monthly sharing sessions, the student e-portfolio competition on technology-enhanced language learning, and the International Conference on TeLLT 2021 will be introduced. Finally, challenges and solutions of creating and maintaining a substantial Community of Practice on TeLLT will be discussed.

Feedback Orientation, a Key to Harness the Sustainable Power of Teacher Feedback to Maximise Productive Learning?

8 December 2021 I 10:30 – 11:30

Chair
Dr Lan YANG
Department of Curriculum and Instruction
The Education University of Hong Kong

Ms Cherry FRONDOZO
Department of Curriculum and Instruction
The Education University of Hong Kong

Ms Juan GAO
Department of Curriculum and Instruction
The Education University of Hong Kong

Mr Yiqi WU
Department of Curriculum and Instruction
The Education University of Hong Kong

Abstract

The academic power of feedback affecting student achievement has been evident in influential synthesis studies. However, the relationship between feedback and achievement might not be linear. Researchers also found feedback is powerful, but it is also variable. Recently, some studies have called for student-centered feedback practices in order to leverage the role played by feedback in learning enhancement. While it is important to bring student-centered feedback approaches in to practice, it would be an essential part to explicitly examine the role played by students' psychological processes of external feedback including their multiple aspects of feedback orientation. Compared to feedback research that has typically developed from a pedagogical perspective, less has been done to reveal the complexity of students' psychological perspective to examine the power of feedback in affecting learning and achievement. Given this, there is a compelling need to explore students' psychological processing of external feedback. In search of the underlying mechanisms of feedback in influencing student learning outcomes, this symposium will bring together four presentations on introducing three empirical studies and a systematic review: 1) Feedback orientation: What is it and why it matters to harnessing the power of teacher feedback in affecting learning? 2) Exploring the relationship between feedback orientation and learning engagement of Filipino university students; 3) The development of Hong Kong student teachers' feedback orientation as both feedback receivers and givers; 4) A systematic review of online assessment and feedback in recent three years and its implications to teaching and teacher education. Key findings of the four studies will be presented in detail through this symposium. All four presentations jointly explore the effects of feedback orientations, a psychological construct comprised of multiple feedback perceptions that collectively determine an individual students' overall willingness and readiness to use the feedback to maximize learning opportunities and achievements.

Keywords: Feedback orientation, Learning opportunities and achievements, Psychological processes, Students' perspective

Entrepreneurship in K-12 and University Education

8 December 2021 I 14:00 – 15:00

Chair
Principal CHU Tsz Wing
Chief Headmaster of St. Hilary's Kindergarten and Primary Section

Professor Erwin HUANG
Associate Director
Technology, Innovation and Entrepreneurship Program
The Hong Kong University of Science and Technology

Ir. Eric CHAN
Chief Public Mission Officer
Cyberport

Mr Angus WONG
Chief Impact Officer
DreamStarter

Abstract

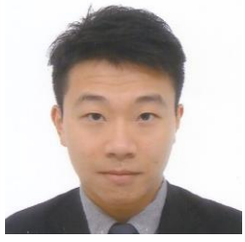
Entrepreneurship is undoubtedly a buzzword globally in the past few years. While entrepreneurship is not a traditional subject being taught in the classroom, Principal CHU Tsz-wing will be hosting seasoned guests from EdUHK, HKUST, DreamStarter and Cyberport to share their insights and experiences on entrepreneurship education in recent years.

Simply comparing the leading pack of Fortune500 for past decades, it is not difficult to reveal the change in the global economy. Catalysed by the disruption of technology innovators, such change is immense. With the faster-than-ever technology advancement, there are massive new opportunities and challenges for our future generations, not to mention the recent evolvement of metaverse. The best way to prepare youth for an unknown future is to learn to learn quickly, have an entrepreneurial mindset, work closely with the community together to overcome difficulties. Solving authentic problems is the real testing ground for future-ready education.

Under entrepreneurship education, startup-like students go through the end-to-end design thinking process. Students engage, interview and test with the people in need and pitch with different commercials and NGOs to crowdfund their projects under the real life context. The critical elements such as Design Thinking process, engaging community, reflections through failures and last but not least the authentic context for true experiential learning would be covered in this session.

Moreover, the panel team will be sharing insights on how we could curate contributions from higher education, K12, commercials startups to enrich entrepreneurship education and how educators could prepare ourselves better to embrace this new curriculum stream.

Where is Life Education?



8 December 2021 | 16:10-17:10

Chair
Mr Chin Wa LI
Department of International Education
The Education University of Hong Kong

Dr Nga Sze LAU
Department of Curriculum and Instruction
The Education University of Hong Kong

Dr Chun Yip TSE
Centre for Language in Education
The Education University of Hong Kong

Abstract

Promoting positive life values by fostering **wisdom** and **compassion** can bring hope to future humanity. This presentation will share how **life education** in terms of **well-being** and **resilience** can be promoted through cultivating **mindfulness**. Dr. Lau has developed curriculum and pedagogy of mindfulness and positive values education for **pre-service** and **in-service teachers** by introducing concepts and theories based on recent academic research. With approaches of engaging students in academic study with their daily life, a respectful and **caring community** is built in the class with self-reflection as key elements of transformation in cognitive, psychological and spiritual aspects. Provided with a safe and kind environment, students are encouraged to seek support. For knowledge transfer, students are encouraged to serve. Finally, I will share that how students are encouraged to engage in projects on positive values education with schools.

To enhance life and positive education, the practical community employs the viewpoints of Heaven (天), People (人), Things (物), and Self (我) to help undergraduates discover the happiness of mind, community,environment, and personal aspects. Mr Li will share his experience in teaching two life education courses: “Taste of Life: The meaning of Suffering and Hope (GEK1006)” and “Love’s Work – Cultivating Relations with Care (GEL1003)”, team members will share their experiences and explore how formal courses might help students have a better understanding of life's meaning and interpersonal relationships. Dr. Tse will introduce the “Generation Dialogue and Exchange Meeting” and share the experience of undergraduates' conversations with retired talents on “Birth, Old Age, Sickness, and Death”.

Keywords: Caring community, Generation dialogue, Life education, Mindfulness, Pre-service and in-service teachers

Enhancing Students' Positive Life Values and Well-Being

9 December 2021 I 09:30 – 10:30

Chair
Dr Kevin Ka-Shing CHAN
Department of Psychology
The Education University of Hong Kong

Professor John Chi-Kin LEE
Vice President (Academic) & Provost
The Education University of Hong Kong

Dr Arita Wing-Yan CHAN
Department of Psychology
The Education University of Hong Kong

Dr Angel Nga-Man LEUNG
Department of Psychology
The Education University of Hong Kong

Dr Lucy Baohua YU
Department of English Language Education
The Education University of Hong Kong

Dr Junjun CHEN
Department of Education Policy and Leadership
The Education University of Hong Kong

Ms Christine Hau-Yu TANG
Department of Psychology
The Education University of Hong Kong

Dr Sarah Lai-Yin WAN
Department of Psychology
The Education University of Hong Kong

Abstract

A Community of Practice (CoP) was established in 2020 to promote positive life values and well-being among university students in the Education University of Hong Kong. The CoP team has adopted the Heaven, People, Environment, and Self perspectives to conduct life education and positive education and help students learn about transcendental, communal, environmental, and personal well-being. In this symposium, the CoP team members will share the results of a cross-sectional survey study about the levels and predictors of university students' meaning in life and positive mental health. The CoP team members will also introduce a newly developed online learning platform, the E-hub for Life Education and Positive Education, which shares learning resources and teaching materials related to life education and positive education. Moreover, the CoP team members will introduce a collaborative digital storytelling project related to positive education, in which students are trained to create and reflect on a series of digital stories that highlight different contributing factors of a positive life, including personal character strengths and positive values (e.g., determination, courage, and bravery), family love and support, and friendship and collaboration. The CoP team members will discuss how these non-formal learning activities help students enhance personal, family and social well-being, and develop reflective skills and values-laden perspectives in their personal and professional lives.

Keywords: Digital story, Positive education, Well-being

Museum Education in Hong Kong: Teachers' and Students' Perspectives

9 December 2021 I 11:45 – 12:45

Chair
Professor John Chi-Kin LEE
Vice President (Academic) and Provost
The Education University of Hong Kong

Dr Sammy King Fai HUI
Associate Vice President (Student Learning)
The Education University of Hong Kong

Dr Joe Tin Yau LO
General Education Office
The Education University of Hong Kong

Ms Mandy Yuen Yee AU
School Partnership and Field Experience Office
The Education University of Hong Kong

Abstract

A museum is an educational fair which facilitates individuals to explore and discover through inquiry. Museums provide participants with direct learning experience with objects and exhibits that relate to concepts and disciplinary subjects in the arts, history, science, and social science of specific time and space. Learning through museums is considered as one of the informal learning ways which is very different from formal learning in schools. This study aims to investigate Hong Kong primary school teachers' and students' perspectives, learning experiences and motivations in museum learning and visits. A survey study is adopted to gather the views and experiences of a sample of senior primary school students and teachers, in the local primary school context, on museum learning and visits in the past three years. Learners' actual and preferred visits to museums as well as the types of motivations involved in visiting museums in a Chinese culture and context will be explored. The ways of interactions and various types of museum learning will also be examined, and teachers' and students' perspectives will also be compared. This study will provide insights into the enhancement of meaningful museum education journeys for students.

Keywords: Interactivity, Hong Kong primary schools, Motivation, Museum education/ learning, Teachers' and students' perspectives

Interactive Workshop on Blended Learning and Teaching Under the New Normal

9 December 2021 I 14:00 – 15:00

Chair
Mr Chi Hung HA
True Light Middle School of Hong Kong,
FlippEducators@HK

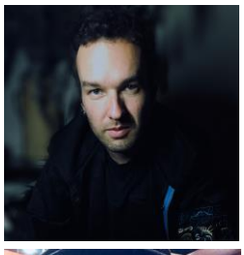
Abstract

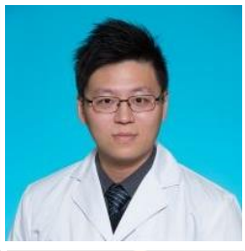
The pandemic has brought unprecedented challenges to the world including the educational sector of every region. Schools are locked down and face-to-face lessons in the classrooms were replaced by on-line live lessons on the Internet. Teachers all over the world including Hong Kong have gained new skills and insights during this period. Now the world is recovering but the world before the pandemic has gone. What takes up will be a new normal where habits and practices will be different from the past. This session will focus on the changes that teachers will encounter in the new normal such as blended learning: why is blended learning important? What are the implications to lesson design?

Keywords: Online learning, Blended learning, Educational technology, Teacher education

From Authentic Assessment to Future-Skills Building

10 December 2021 I 9:30 – 10:30





Chair
Professor KONG Siu-Cheung
Director, Centre for Learning, Teaching and Technology
The Education University of Hong Kong

Dr Eugene Alexander BIRMAN
Assistant Professor, Department of Music
Hong Kong Baptist University

Mr CHEUNG Chun Hoi
Assistant Professor of Practice, Clinical Division, School of Chinese Medicine
Hong Kong Baptist University

Dr LI Zhen Jennie
Assistant Professor, Department of Chinese Language Studies
The Education University of Hong Kong

Dr WAN Lai Yin Sarah
Senior Lecturer II, Department of Psychology
The Education University of Hong Kong

Abstract

Most disciplines are grappling with the need to develop skills to support students to thrive in a fast-changing world. At the course and programme levels, the design and implementation of holistic future-skills building efforts involve phases of work: from identifying potential skills gaps, reviewing course learning outcomes, reimagining assessment practices, to re-thinking about students' learning journeys in relation to relevance to the real-world.

The Education University of Hong Kong (EdUHK) and Hong Kong Baptist University (HKBU) launched a project entitled “Towards A Paradigm Shift for A New Model of Alternative Assessment” in July 2020 to explore new possibilities for authentic/alternative assessments. In this symposium, frontline Academic/ Teaching staff members from both universities will share their experiences in re-designing assessment plans and feedback processes for their courses with considerations on preparing students as future-ready contributors in their disciplines and global citizens in the world at large. The presenters will also discuss how the university can support them in implementing authentic/alternative assessments.

Keywords: Assessment for learning, Authentic/alternative assessment, Future readiness, Student learning

AI in K-12 and University Education

10 December 2021 I 10:30 – 11:30

Chair
Professor KONG Siu-Cheung
Centre for Learning, Teaching and Technology
The Education University of Hong Kong

Professor Tatsunori MATSUI
Waseda University

Professor Stephen YANG
National Central University

Dr Weipeng YANG
Department of Early Childhood Education
The Education University of Hong Kong

Abstract

In this symposium, the presenters will draw on their own projects and research to explore an approach to implementing AI-related initiatives in the education sector. For early childhood education, Dr. Weipeng Yang will present on an embodied AI curriculum for kindergarteners. Professor Kong Siu-Cheung will share his experience of running AI literacy programmes for primary, secondary school and university students. Professor Tatsunori Matsui will introduce the practice of AI literacy education in a highly interdisciplinary faculty, and will present the structure and evaluation of a class on AI offered for lower grades of undergraduate students. Professor Stephen Yang will address research on the use of human-centered AI to evaluate new designs of technology that can be leveraged to advance AI research, education, policy, and practice to improve humanity in learning analytics. Speakers of this session will inspire the audience on the essential understanding of AI, and how such an understanding would impact our further interaction with other learners, the education ecosystem, and the global society at large.

Future Classrooms@EdUHK2021

10 December 2021 I 11:45 – 12:45

Chair
Professor KONG Siu-Cheung
Centre for Learning, Teaching and Technology
The Education University of Hong Kong

Dr HU Xinyun Annie
Department of Early Childhood Education
The Education University of Hong Kong

Dr HUNG Keung
Department of Cultural and Creative Arts
The Education University of Hong Kong

Dr WONG Wai Ying Paulina
Department of Cultural and Creative Arts
The Education University of Hong Kong

Abstract

Eight Future Classrooms have been constructed inside EdUHK's Mong Man Wai Library between 2018 and 2021, all of which are tailored for future pedagogical models and needs as well as technological advancements. The specialized set-ups in these new venues accommodate diverse needs of learner groups such as students with special educational needs, a wide range of virtual reality applications, and flexibility to support new and emerging pedagogical trends and educational technologies. These classrooms are ideal locations for students and teaching staff of EdUHK and local schools to experiment and experience innovative pedagogical practices. In this symposium, we will discuss the pedagogy-driven design principles backing up the Future Classrooms project, and share the experience of using the new spaces and IT applications for enhancing learning and teaching experience. Through the sharing, we hope to explore the ways to strengthen the longer-term abilities of pre-service teachers in reimaging their teaching practices, hence getting future-ready. We will also elaborate on how to promote the new concept of classroom teaching to benefit the wider school sector.

Detailed Information of Parallel Sessions

Virtual and Blended Teaching and Learning

Blended Learning in Hong Kong Secondary School and Its Impact on Self-regulated Learning and Learner Motivation

8 Dec 2021 I 09:50-10:10

Mei Ling LAW
The Education University of Hong Kong

Abstract
The study aims to investigate the current implementation of blended learning in the context of Hong Kong Secondary School. E-learning has been a key focus in secondary school in Hong Kong and blended learning acts as a remedy for schooling under the pandemic. After a two-year preliminary implementation, it is worthwhile to review the school curriculum, to investigate teachers and students' perceptions on the blended learning curriculum and its effects. E-learning is closely tied with self-regulated learning and learner motivation in literature. These two learning activities act as significant contributing factors in curriculum design. Therefore, a study on the impact of blended learning on students' self-regulated learning and learner motivation would provide more insights for teacher educators and policymakers to refine the new learning in the context of Hong Kong Secondary School. Mixed methods were employed in this study. MSLQ and SRL-S questionnaires were modified to inquire into 118 students' perception of blended learning and its effects on their self-regulated learning activities and learning motivation. Semi-structured interviews on 14 students and 9 teachers were conducted to understand more on their perceptions of blended learning, their technological readiness, and their evaluation of learners' self-regulated learning and learning motivation to supplement the quantitative findings. The finding revealed positive effects on both self-regulated learning and learning motivation under the new blended learning curriculum. The implication of blended learning in relation to technological readiness, self-regulated learning and learner motivation are discussed.

Keywords: Blended Learning, Learner Motivation, Online Learning, Self-regulated Learning, Technological Readiness

Community of Practice on E-learning in Early Childhood Education




8 Dec 2021 I 15:40-16:00

Tricia Kwok Sai WONG
The Education University of Hong Kong

Sylvia Yee Fan TANG
The Education University of Hong Kong

Po Lin CHAN
The Education University of Hong Kong

Yuen Ling CHENG
The Education University of Hong Kong

Abstract
疫情期間，網上教學成為幼兒在家學習的重要模式之一。然而，網上教學對幼兒教育工作者而言是一項巨大挑戰。因此，香港教育大學推行「幼兒教育網上教學實踐社群計劃」，藉此促進業界與學界交流和輔助幼稚園教師掌握網上電子學習資源製作的技巧，以應付這個重大的危機。「計劃」分兩個階段進行，首階段有六所學校參與。計劃成員包括教大導師、電子學習專員、在職老師和職前老師。藉著四方協作和交流，建立互助實踐社群，共同創作高質素的網上教學範例。經過一番努力，六所學校都成功製作了幼兒網上電子學習資源。他們除了分享製作成果和交換心得之外，還列舉校本電子資源製作和應用的途徑，並指出製作上常遇到的困難和應對方法，值得與業界分享。結果顯示，這項四方協作的創舉能有效提升老師的網上教學能力和團隊協作精神，並能促進幼兒學習和親子關係，有利於發展家校協作。他們的成功事例和寶貴意見將於教大網上教學平台發佈，讓業界同工得以互相學習和交流。

Keywords: 幼兒教育，電子學習，實踐社群，網上教學

The Complex Relationship Between Technology and Pedagogy: Implications for Interactivity and Engagement in Classroom Learning

8 Dec 2021 I 10:30-10:50

Nicole TAVARES
The University of Hong Kong

Abstract
COVID-19 brought an abrupt and drastic shift to online teaching and learning worldwide. To most practitioners, the journey of learning to teach online has been a catalyst to their professional development. While acknowledging that pedagogic growth amid the pandemic is evident, this paper challenges the widely cited dictum and often-given advice of putting the pedagogy horse before the technology cart (e.g. Sankey, 2020). Citing examples from Tavares' first-hand experience of teaching undergraduates and postgraduates in teacher education programmes at her university, it demonstrates how technology and pedagogy are interconnected and interdependent elements that work with other entities such as the teacher, students, curriculum content and learning environment. Drawing on data from Tavares' virtual classroom, it endorses the complex systems perspective (Larsen-Freeman, 2016) and elucidates the dynamic relationship between technology and pedagogy (Tsui & Tavares, 2021). It shows how exploiting the affordances of technology has lent itself to a re-tooling of these affordances to achieve and re-imagine pedagogic goals. The positive impact on students' self-efficacy and her own self-efficacy in online teaching has led to the emergence of new pedagogic practices which have enabled her to surpass what she could achieve in face-to-face settings. With elevated teaching methodologies, she was presented with her University's Teaching Innovation Award (2020) and the Faculty Emergency Remote Teaching Award (2020). The paper highlights how this sheds light on her current initiatives of integrating blended learning into her university-based classes, creating enhanced opportunities for learner interactivity and engagement. Implications for the future classroom are also discussed.

Keywords: Affordances**,** Complex systems, Online teaching, Pedagogy, Technology

Construction Management and Quantity Surveying Work Integrated Learning Experience in New Zealand from Employer Perspective: How Competencies Influence Students' Employability

8 Dec 2021 I 09:30-09:50

Kam CHENG
Ara Institute of Canterbury, New Zealand

Wen Yue TANG
Ara Institute of Canterbury, New Zealand

Abstract
During COVID-19, many people in workplaces across New Zealand are concerned about job security. Employers also recognise the need to retrain and reskill their employees to respond to COVID-19 impacts. To address the new wave skill shortages in New Zealand construction industry, framework of seamless transition between work-based learning and classroom learning must be established and enhancing students' employability has become a key priority for universities and tertiary institutions in New Zealand. This paper will take the form of questionnaires with Likert Scale, It contributes to solving skill shortage problem by investigating best practice in the classroom and placement activities which can develop employability skills meeting the industry needs, strengthen the relevancy of academic study and employability, and enable employers to recruit their ideal candidates through the WIL platform. It also aims to identify factors impeding skill performance during WIL. Findings: The results of this study suggest that construction education has some improvements to make in at least three areas of competency in technical competency. Interestingly, the results showed a totally different aspects from other previous research in that the shortfalls related primarily to communication, problem solving and social ethics skills, students in New Zealand are very strong in the above areas. These results further imply that workplace supervisors expect higher levels of knowledge and skills application from construction students. A possible reason for workplace supervisors to find this could be that these attributes are embedded in the curriculum in construction management/quantity surveying.

Keywords: Construction, COVID-19, Graduate Employability, Skills, Work-integrated Learning

Cultivating Student Teachers' Capability for Collaborative Problem-Solving in Curriculum and Assessment Planning Through Communities of Inquiry

9 Dec 2021 I 14:00-14:20

Min YANG
The Education University of Hong Kong

Ying ZHAN
The Education University of Hong Kong

Ngok-Cheng CHAN
The Education University of Hong Kong

Lan YANG
The Education University of Hong Kong

Kam Wing Paul CHAN
The Education University of Hong Kong

Hau Fai Edmond LAW
The Education University of Hong Kong

Lai Mui LEE
The Education University of Hong Kong

Wai Ho Kevin YUNG
The Education University of Hong Kong

Zhihong WAN
The Education University of Hong Kong

Abstract
This paper reports preliminary findings from the evaluation of an ongoing TDG project, which employs group-based curriculum and assessment design tasks to assist student teachers in solving problems arising from classroom scenarios. By involving students in small-group tasks and whole-class discussions during face-to-face online Zoom lessons, course lecturers seek to build communities of inquiry to support student teachers' learning. Communities of inquiry are online or blended learning communities that support student learning via three forms of presences: (a) teaching presence (appropriate pedagogical design and implementation), (b) social presence (supportive social interactions), and (c) cognitive presence (student learning activities oriented to higher-order thinking) (Garrison, 2016). Specifically, this TDG involves four classes of BEd students in Semester 2 of 2020-2021 and two classes of PGDE students in Semester 1 of 2021-2022 (~ 40 students per class). Students in each class are required to select four out of eight design tasks (four on curriculum design and four others on assessment design) to complete, then elicit a partner group's feedback for improvement before sharing their design to the whole class. Preliminary findings from classroom observation during Semester 2 of 2020-2021 showed that student teachers were able to solve authentic problems of curriculum and assessment design tasks, exchange their feedback with partner peer groups, and confidently sharing their designs during whole-class discussions. Implications for blended and online learning practice and research in higher education are discussed.

Designing and Evaluating an E-teaching Package of English Phonetics and Pronunciation for Pre-service Teachers

8 Dec 2021 I 15:40-16:00

Hsueh Chu CHEN
The Education University of Hong Kong

Jing Xuan TIAN
The Education University of Hong Kong

Abstract
Online pronunciation teaching becomes particularly challenging because of the distance between teachers and students, and the lack of interactions, feedback and supervision (Dumford & Miller, 2018). The study aims to describe the process of designing an e-teaching package on English phonetics and pronunciation course for pre-service teachers in Hong Kong, and to evaluate the effectiveness of this online teaching package. Thirty-nine pre-service teachers divided into the control group (CG) and experimental group (EG) attended five training sessions on Zoom, an online conference platform. Participants in the CG received traditional Powerpoint lectures with pre-set Zoom functions for interaction, while participants in the EG received training with an e-package of Edpuzzle, Nearpod, Padlet, Mentimeter and Kahoot. Pretest–posttest designs and questionnaire were employed to evaluate students' pronunciation improvement and their attitudes towards the e-package. Results showed that participants from both groups made fewer errors on English consonants and vowels after the training sessions. 80% of the participants in the EG agreed that the e-package was well-designed and could make the online instruction more interactive compared with the traditional online instruction. 75% of them reported that they received more feedback when the e-package was applied. 45% of the participants reported that their favorite e-tool was Edpuzzle. This tool not only helped them review and consolidate the content knowledge but provided more input for them to identify their pronunciation errors. As for two online quizzes, students showed more interest in Kahoot as it was more competitive compared with the individualized quiz using Nearpod.

Developing Academic Literacies Supported by Zoom Chats with Undergraduate English Major Student Teachers

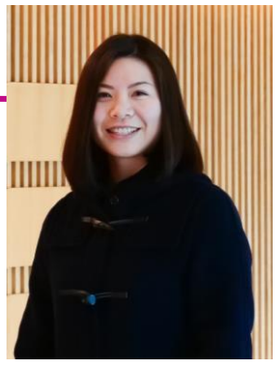
9 Dec 2021 I 14:20-14:40

Diane HUI
Hong Kong Metropolitan University

Abstract
The Covid-19 pandemic has changed our learning worldwide. More specifically, it moves our learning even more online than it has been before, as such, complicates further the inconsistencies between pedagogical facilitation and the building of knowledge among students. Concerns over teachers' readiness for digital learning opportunities are noted. Extending the previous studies demonstrating how academic literacies can be facilitated through collaborative discourses enhanced by digital-media technologies with Asian English language learners the proposed paper aims to share a critical reflection on the facilitation and development of academic literacies via collaborative discussions supported by Zoom with a group of English-major student teachers in their becoming English language teachers within an Asian ELL context. Drawing on social learning and sociocultural perspectives, written discourse data of learning and teaching were collected via the chat box in Zoom with the same group of student teachers through two related practicum courses in a local university over two years (2020-2021), supplemented with additional data including assignments, academic performance and email communication for triangulation. The results of analysis indicated the importance of productive dialogic engagement of pedagogical contents over time and reflective thinking within a community of learners from multiple perspectives facilitated by digital-media technologies in the building of a knowledge community and professional identities. These results inform useful ways how "efficacious learning" leveraged by new literacies can transform the academic literacies often considered as crucial for academic and professional success.

Keywords: Academic Literacies, Efficacious Learning, Sociocultural Dialogicality, Student Teachers, Zoom Chats

Developing and Supporting E-Learning Packages in Core Courses: A Case Study of a University in Hong Kong



8 Dec 2021 I 10:50-11:10

Yuen Man TANG
The Education University of Hong Kong

Sylvia Yee Fan TANG
The Education University of Hong Kong

Cher Ping LIM
The Education University of Hong Kong

Abstract
This case study examines how a team-based approach to the development and support of student-centered e-learning packages in core courses builds the capacity of university faculty. Guided by a generic instructional design model of Analyze, Design, Develop, Implement, and Evaluate (ADDIE), the team-based approach encapsulates aspects of a collaborative effort from content developers (university faculty) and an e-learning team. In-depth individual interviews with nine university faculty were conducted to explore how their participation in the instructional design process has enhanced their technology-enhanced learning and teaching competencies and practices. The key findings suggest that a team-based, collaborative approach serves as a professional development opportunity through "learning by doing" and builds up the capacity of university faculty for quality online learning and teaching. Particularly, their involvement in the instructional design process of the e-learning packages provided them with a meaningful and fruitful professional learning experience to reflect upon how to effectively integrate pedagogy and content knowledge with technology to address their students' learning needs. In addition, they have learned a variety of technology-enhanced online learning tools and activities to facilitate student interactions and engagement, thereby providing their students with a more meaningful learning experience. This case study provides promising practices and lessons learnt that may be scaled up at the institutional level for the capacity building of university faculty in co-developing e-learning packages through the team-based and collaborative approach.

Keywords: Instructional Design, Professional Development, Team-based Approach, Technology-enhanced Learning

Development of an E-learning Platform with Mentor Support to Enhance Student Learning Experiences in Innovation and Entrepreneurship

8 Dec 2021 I 11:10-11:30

Masayo KOTAKA
The University of Hong Kong

Jeffrey E BROER
The University of Hong Kong

Julian A TANNER
The University of Hong Kong

Esther W Y CHAN
The University of Hong Kong

Rocky C S LAW
The University of Hong Kong

Brian C W WONG
The University of Hong Kong

Abstract
Creating impact through innovation is one of the key missions of our University, and initiatives have been taken to promote and foster the innovation and technology-driven development of our students. To cultivate an innovative and entrepreneurial mindset of students in the Biomedical Sciences discipline, we developed a credit-bearing course to teach biomedical innovation and entrepreneurship using a combination of process, cognition and method-based approaches of entrepreneurship education. The pedagogical portfolio of the course is one that simulates start-up accelerator programmes. One of the major features of this portfolio is the access to a mentor network from the industrial landscape. While the maintenance of the mentor network is crucial for the sustainability of this pedagogical portfolio, it is sometimes not feasible for the mentors to take part in the training workshops in person. To ensure the sustainability and the student learning experience of the course, we have developed an interactive E-learning platform to complement the project course. Using the online whiteboard and visual collaboration platform MIRO as the base application, the platform comprises digital archives of videos from mentor training workshops, interactive assessments, and Q & A fora for students to conduct continuous self-directed and active learning, and at the same time to receive timely feedback from teachers and participating mentors online. In addition, to foster communication and collaboration of the students on their group projects, the platform also includes designated whiteboard space for groups to brainstorm and work together online.

Keywords: Active Learning, Entrepreneurship Education, Interactive Lessons, Online Collaboration, Virtual Learning

Effects of a Motivational Video Tutorial for English Grammar Learning for Chinese Undergraduate Students

9 Dec 2021 I 10:10-10:30

Guoyuhui HUANG
The University of Hong Kong

Joyce KARREMAN
The University of Twente

Hans VAN DER MEIJ
The University of Twente

Abstract
China has encountered the huge challenge of raising the English proficiency of the largest population of learners of English as a second language in a country in the world. However, two perennial problems existed were unskilled teachers and unmotivated students. Therefore, the present study investigated whether the provision of qualified video tutorials could be a workable substitute for teacher-led lectures of English Grammar at Chinese universities. The present study investigated the construction and effect of video-based tutorials about the use of an English grammatical construction: the attributive clause. A control tutorial following demonstration-based training design was developed. In addition, a tutorial with complementary motivational support was constructed to address the presumed demand for special attention to students' perceptions of task relevance and self-efficacy. We measured learning outcomes and learning motivation of 60 Chinese undergraduate students before training and directly afterwards. The findings revealed the motivational tutorial significantly outperformed the control one on the post-test in terms of learning outcomes, despite the effect of tutorial type on usability or motivation was not significant. It is concluded that the video-based tutorial is effective for this target group, and is promising to offer a viable alternative to human teacher if constructed well.

Keywords: 2nd Language Learning, Demonstration-based-training, Instructional Design, Motivational Support, Video-based Tutorial

Enhancing Students' Online Collaborative Skills and Awareness of Sustainable Development Goals Through eTournaments

8 Dec 2021 I 14:00-14:20

Martin LAU
Hong Kong Baptist University

Theresa KWONG
Hong Kong Baptist University

Abstract
It has been essential to train students to work effectively in online teams with members of diverse backgrounds situated around the globe to accomplish goals. Such competence has become more crucial in this "post-pandemic era", when online collaborations have become a norm. In addition, due to global issues such as poverty, inequalities and extreme weather, sustainable development has caught more attention of individuals, businesses and governments. The focus of this presentation is a two-stage, team-based, entirely online competition called "SDGs eTournament", which aims to enhance students' awareness of United Nations' Sustainable Development Goals (SDGs) and online collaborative skills. Being one of the characteristics of this eTournament, teams were formed by the competition organiser in order to assure disciplinary and cultural diversity, and to mimic the workplace scenario that picking preferred teammates is often not an option. In the eTournament, the teams had to complete a series of tasks, from strategising in the first stage, to playing a game by answering questions on the SDGs in the second stage. The 2021 eTournament was the third run of such a competition, with 1,088 students from 41 home regions participated at the beginning -- 260% of the participants in 2020. Learning analytics from the data collected (game data, discussion histories, etc.) will be presented, to discuss the features found in the high-performing and low-performing teams. Comparisons with similar data in the previous runs of the eTournament will also be discussed.

Keywords: Gamification, Multi-cultural, Multi-disciplinary, Online Collaboration, Sustainable Development Goals

Gamification for Learning? - How and Which Elements Work?

9 Dec 2021 I 12:05-12:25

Shurui BAI
The University of Hong Kong

Donn Emmanuel GONDA
The University of Hong Kong

Abstract
Since the outbreak of COVID-19, fully online teaching has become the new norm but raised many challenges in terms of students' engagement. Previous research suggests that gamification could help students enhance learning performance, course engagement, and obtain a joyful learning experience. This study aims to examine how gamification can help engage students in fully online classes. In particular, how to implement game design elements to achieve this goal. The research team recruited participants from two fully online taught postgraduate courses in Hong Kong delivered by two different learning management systems. The first course used a mainstream learning management system Moodle, while the second course applied a collaboration platform called Miro. Both courses applied multiple game design elements such as badges, leaderboards, points, and unlock to enhance students' engagement. A mixed-method approach was applied to examine students' activity level on online discussion forums and interview students about their perception of gamified class. Results showed that a gamified learning environment could help promote participants' three aspects of learning engagement: a) behavioral engagement: more posts and comments on online discussion forums; b) affective engagement: positive attitude toward gamified learning for sustaining competitiveness, competency, and collaboration; c) cognitive engagement: higher performance on accomplishing challenging tasks. The study will also discuss the implications and practical suggestions for conducting meaningful gamification in face-to-face and online learning.

Keywords: Engagement, Game Design, Gamification, Instructional Design, Technology-enriched Learning

Harnessing the Power of Assessment to Support Teaching and Learning Through an Innovative Blended Learning Approach (A+BLe)

8 Dec 2021 I 16:10-16:30

Lan YANG
The Education University of Hong Kong

Cher Ping LIM
The Education University of Hong Kong

Abstract
It is always challenging for teachers to, on one side, well organize the teaching/learning content so that all students are more likely to actively participate in the learning process, and on the other side, to adequately assess students' learning outcomes in each learning unit/session. This invited presentation will focus on introducing two online assessment techniques: 1) Team-based Electronic Assessment (TEA) that facilitates team-based learning and provides immediate feedback and 2) Self- and Peer-Assessment (SPA) that assesses four key aspects of teamwork: Preparation, Contribution, Gatekeeping, and Flexibility as well as positive emotions students experienced in team-based learning. Generic learning outcomes (GILOs) are also assessed via the SPA in the learning process rather than at the end of a course/academic year/university learning. The two assessment platforms have been developed from a university-level teaching development project. They contribute to linking teaching and learning to assessment practices (self-assessment, peer-assessment and teacher-assessment) in a visible and progressive way. These process data include immediate feedback and visualized assessment results to inform teachers about their teaching impacts and students about their learning outcomes. These learning analytic features inform students and teachers how well the objectives of teaching and learning have been achieved. Additionally, there would be no extra workload for academic/teaching staff to take in managing TEA and SPA in their courses given the automated calculation, record and report preparation features of these tools. These innovative features and empirical evidence will be presented in detail and discussed in relation to the blended learning mode amid the COVID-19 pandemic and beyond.

Keywords: Learning Outcomes, Self- and Peer-Assessment (SPA) platform, Team-based Electronic Assessment (TEA), Technology-enhanced Assessment

Identifying First-year University Students' Learning Patterns and Facilitating Blended Learning

8 Dec 2021 I 14:40-15:00

Vivian Wing Yan LEE
The Chinese University of Hong Kong

Jesse Lai Fong LEE
The Chinese University of Hong Kong

Tia Siya LIANG
The Chinese University of Hong Kong

Nikki Qing Qing HUANG
The Chinese University of Hong Kong

Abstract
Blended learning has received increasing focus and become a major study mode under pandemic. This research aimed to investigate the blended learning patterns and to identify the challenges faced by 3000 freshmen for facilitating their learning. Both qualitative interviews and quantitative surveys were conducted from May to August 2021. For the online questionnaire, the model of Community of Inquiry was adopted to measure freshmen's perception of the effectiveness of teaching and learning. Besides, the Transition, Wellbeing, Help-seeking, and Adjustments Scale (TWHAS) was used to collect the data related to the socio-emotional, academic challenges and psychological barriers that the freshmen had faced. SPSS 26 was adopted for quantitative analyses whilst content analysis was used for qualitative data analysis. Results showed that among the 587 respondents, 288 (49.1%) students had prior experiences in blended learning, and 279 (47.5%) students experienced 81-90% of in-class being replaced by mixed learning. Student engagement was the largest challenge 384 (65.4%) and followed by making friends from different backgrounds on campus (58.6%, 344 students), notwithstanding 310 (52.8%) freshmen agreed with the convenience of blended courses. Qualitative data from the interviews with the 21 freshmen demonstrated that online learning was an obstacle to cognitive development and also being considered as attributable to a lack of sense of belonging and peer support due to communication via ZOOM. To facilitate blended learning, suggestions relating to how to improve the efficiency of teaching, cognitive and social presences, as well as the psychological well-being of freshmen from students were collected.

Keywords: Blended Learning, Community of Inquiry Model, First-year Students' Transition to University, Teaching Presence, TWHAS (Transition, Wellbeing, Help-seeking, and Adjustments Scale)

Incorporating Moodle-wiki and Moodle-digital Badges into Undergraduate Health Science Courses: Impact on Students' Collaborative Learning, Motivation, Behavioral Engagement and Academic Performance

8 Dec 2021 I 15:20-15:40

Shirley S M FONG
The University of Hong Kong

Samuel K W CHU
The University of Hong Kong

K F HEW
The University of Hong Kong

Abstract
This study aimed to compare the effects of Moodle-wiki and Moodle-digital badges on students' collaborative learning, motivation, behavioral engagement and academic performance in undergraduate health science courses. Sixty-one and 31 BSc (Exercise and Heath) students of the University of Hong Kong were recruited by convenience sampling. They were assigned to either a Moodle-wiki group or a Moodle-digital badges group. The students in the Moodle-wiki group attended face-to-face lectures and used a wiki on Moodle platform weekly for online group discussion during a 13-week semester. The students in the Moodle-digital badges group received the same intervention and were awarded gold, silver or bronze badges based on their performance online. The outcome measures were collaborative learning measured with the Group Process Questionnaire (GPQ), motivation and behavioral engagement as reflected by the Moodle activity log, and the overall course performance. Data was collected at the end of the semester. Results revealed that the Moodle activity log, GPQ positive independence score, individual accountability score, equal opportunity score, social skills score and composite score were all higher in the Moodle-digital badges group compared to the Moodle-wiki group ($p<0.001$). However, the overall course results were similar between groups ($p=0.305$). Using Moodle-digital badges may be more effective in enhancing collaboration among undergraduate students when compared to using Moodle-wiki alone. The use of Moodle-digital badges may also improve their motivation and behavioral engagement. However, the overall course results were similar between students in the Moodle-digital badges group and those in the Moodle-wiki group. (HKU Teaching Development Grant 17/659)

Keywords: Blended learning, Digital badges, Gamification, Higher Education, Wiki

Application of HyFlex Model in Construction Education in New Zealand from Students' Perspectives

8 Dec 2021 I 14:20-14:40

Kam CHENG
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Danni LI
Ara Institute of Canterbury, New Zealand

Abstract
During COVID-19, the idea of remote study has been steadily gaining steam globally. It has dramatically changed the way teachers teach and students learn in New Zealand. Different approaches have been adopted to shorten the social distancing and fulfil learners especially career changers' expectation. HyFlex is one of these approaches used in the special pathway. In HyFlex courses, students can choose from one of three or combination of participation paths from fully online to face-to-face teaching via the Learning Management System. Quantitative and qualitative approaches were adopted in form of questionnaire in Likert Scale and long questions in this study. Students in the study were asked to complete an online survey and respond to a structured interview protocol to help assess their choice, experiences, and level of satisfaction with HyFlex learning. This study aims to fill the research gap by establishing an inclusive Hyflex model for promoting construction education and improving it accessibility through understanding students' perspectives and meeting their needs in New Zealand. Findings: students were actively involved in learning, the additional materials available online were used effectively by learners and constant communication with course tutor is a key of successful learning. Scheduled timetable for learning could also facilitate the learning process. Finally, interaction with other learners is a good opportunity to discuss and share ideas through online group discussion for the learners who learned under the Hyflex model.

Keywords: Construction, Higher Education, Hyflex, New Zealand

Learning Better from Real Lives: Integrating Life-reviews in Psychology and Education Related Courses

10 Dec 2021 I 11:10-11:30

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Zhenlin WANG
The Education University of Hong Kong

Xiuhong TONG
The Education University of Hong Kong

Pok-Man SIU
The Education University of Hong Kong

Abstract
A challenge in understanding human development from a life-span perspective in university-level psychology and education courses lies in the limited life experience associated with our students' age, most of whom are young adults. Conducting life-review interviews with older adults could help students to deepen their understanding of the theories and key concepts related to human development by analyzing their interviewees' life stories from a life-span perspective. This project aims to develop an e-learning package using multimedia resources to guide students to conduct life-review interviews and to creatively present the interviewees' life stories. The effectiveness of the e-learning package is empirically tested using a mixed design. Around 200 students will be recruited from psychology and education related courses and assigned be either the experimental group or the control group. The e-learning package will only be provided to the experimental group to assist their learning. All participants will to complete a pre-test at the beginning of the semester and a post-test after completion of the course. It is expected that there would be a larger increase of the levels of self-efficacy of learning, learning motivation, and the achievement of the generic learning outcomes in the experimental group compared to the control group. Focus-group interviews will be conducted to obtain the feedback from the related lecturers and students about this package and students' learning. Data collection of the empirical study is still ongoing at the time of this abstract submission.

Keywords: Education, E-learning Package, Life-review Interview, Life-span Development, Psychology

Metacognitive Teaching and Learner Engagement in a Disadvantaged Province in China: Results from Comparing Traditional and Technology-enhanced Classrooms

9 Dec 2021 I 11:45-12:05

Jieyan Celia LEI
Shaoyang University

James KO
The Education University of Hong Kong

Abstract
Metacognitive teaching strategies (MTSs) refer to overall teaching methods that teachers encourage students to reflect on solving problems. Compared to traditional teaching, metacognitive teaching is expected to enhance students' metacognition. Assuming MTSs may be more common in technology-enhanced classrooms than traditional teacher-led classrooms, the researchers explored metacognitive teaching of teachers with training on teaching English learners to learn with multimedia hand-held devices with a proprietary program in four different primary schools in a disadvantaged province in China. Four sample classrooms were selected on two criteria: location (urban vs rural) and teaching quality (high vs low) based on the rating results by two trained observers first using TEACH, a classroom observation instrument, and then an in-depth verbatim analysis with an assessment designed to identify and measure MTSs. Teacher-student interactions at the classroom level were also coded to detail the relationship between student engagement and metacognitive teaching. Unexpectedly, technology-enhanced classrooms were found not necessarily rich in metacognitive teaching. Instead, results showed that 1) metacognitive teaching existed more differences within rather than between locations; 2) teachers with better teaching quality performed better in metacognitive teaching and student engagement, regardless of technology applications; and 3) pedagogically weak classrooms showed either fewer MTSs or MTSs that did not match students' learning ability. This paper put forward measures for enhancing metacognitive teaching and student engagement in disadvantaged regions in China, and suggested improvements on technology-enhanced pedagogy.

Keywords: Classroom Observation, Metacognitive Teaching, Student Engagement, Teaching Quality

Monitor or On-site? Macau Kindergartener Parents' Learning Experience in Face-to-face and Online Parent Education Seminars

8 Dec 2021 I 15:00-15:20

Meng Hin NG
The University of Saint Joseph

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Kuai I Queenie LEONG
The University of Hong Kong

Pui Wan CHENG
The Chinese University of Hong Kong

Gloria Wing Sze HO
The GEG Chinese Literacy Education and Research Project

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The GEG Chinese Literacy Education and Research Project

Abstract
As COVID-19 pandemic interrupted face-to-face instructions due to mass gathering concern, most of the instructional activities have shifted from face-to-face to online mode. Whereas existing literature discussed how online instructions could condition learning experiences, how such impact manifested in different teaching methods remained to be explored. To understand learners' subjective experience, we interviewed 20 parents from 6 Macau kindergartens who participated in the parent education seminars held by the Chinese Literacy Education and Research Project (CLEAR) in different modes (i.e., Online, Hybrid, and Face-to-Face) in the present study. It is argued that the seminar settings mediated how different instructional modes would shape learners' experience, in which the seemingly restrictive condition in online mode did not necessarily prompt negative responses from the learners. Firstly, as 'peer pressure' no longer existed in online mode, participants were able to express themselves more freely in such settings. In addition, online mode aroused instant responses from participants, allowing them to simultaneously practice and consolidate what they have learnt throughout the seminar. Online mode was also 'all-encompassing' in the sense that all participants had the opportunity to take part in the seminar activities. Although having such advantages, Face-to-Face seminars still have the edge in offering a livelier learning atmosphere and making it more engaging to the participants. Mixed receptions were observed among participants in hybrid mode seminars. Implications of how the features of different modes could be combined in seminar design will be discussed.

Keywords: Learner Experience, Online Learning, Parent Education

Out-of-class Learning Experience and Students' Attributes in Higher Education Context – An Observational Study

9 Dec 2021 I 09:30-09:50

Kevin CHAN
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Cypher H AU-YEUNG
The Hong Kong Polytechnic University

Abstract
Adoption of out-of-class learning activities, including synchronous and asynchronous face-to-face or online learning activities outside classroom and class time, has experienced exponential growth in the new normal amid the global pandemic. Current evidence on out-of-class learning suggests benefits including learning authenticity through experiential learning, enjoyment, and motivation in the learning process.In the higher education context, this study explores the general relationship between experience and frequencies of out-of-class activities and student attributes related to self-regulated learning and positive learning experience. Adopting constructs from the Motivated Strategies for Learning Questionnaire and The National Survey of Student Engagement, we administered an online survey with 186 valid returns by undergraduate students from a university in the Hong Kong SAR. Association between survey variables were analyzed with a regression model. Results from correlation analysis revealed a significant positive relationship between recent out-of-class activity frequency in the past 6 months, and MSLQ learning strategy variable in time and study environment management. A linear regression established that having more out-of-class experience could predict higher score in time and study environment management ($R2 = .026$, $F(1, 184) = 4.97$, $p = .027$). While having more out-of-class activity experience may not help promoting motivation and self-regulated learning, it potentially optimizes students' study habits and efficiency. Study results suggest that out-of-class learning interventions may nurture autonomous learning. Further research on specific out-of-class learning activities with varying duration and intensity would allow deeper understanding about effective ingredients in the designs and implementations in out-of-class activities in the higher education context.

Keywords: Active Learning, Experiential Learning, Out-of-class Learning, Self-regulated Learning

Overseas Chinese Parents' Motivation for Their Children's Online Chinese as Second Language Learning: A Case Study in Australia

8 Dec 2021 I 16:30-16:50

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The University of New South Wales, Australia

Luis Miguel DOS SANTOS
Woosong University, South Korea

Abstract
An increasing number of overseas Chinese parents let their children learn Chinese as Second Language (CSL) worldwide. With myriad online learning platforms and mobile applications, online CSL learning has become a popular alternative for overseas Chinese parents. However, there remains a dearth of studies examining the driving force behind these parents' decisions and actions. To fill this research gap, this study aims to explore Chinese parents' motivation for enrolling their children in online CSL learning. This study is guided by two research questions: First, how do the first- and second-generation Chinese parents describe their children's online CSL learning experience? Second, why do these parents decide to let their children learn CSL online? Guided by the Social Cognitive Motivation and Career Theory, this qualitative study examined the experiences of 50 Chinese parents in Australia in depth through conducting two one-on-one interviews and two focus group discussions with each participant. The researchers then categorised three themes and six subthemes. The themes included: favourable learning environment fostered by greater students' engagement and teachers' authority, attainment of learning goals like vocabulary and writing, and traditional Chinese values and beliefs to forge the bond with their cultural root and community. Since online or remote learning is likely to become a 'new normal' in the post-pandemic era, the findings of the study can provide insights for the educational institutions on the effective online CSL teaching and learning strategies, as well as for parents to provide better support for their children CSL learning in the future.

Keywords: Case Study, Chinese as Second Language, Motivation, Online learning, Parents

Preparing to Work Together: Interprofessional Education via Online Simulated Case-based Learning

9 Dec 2021 I 14:40-15:00

Elizabeth BARRETT
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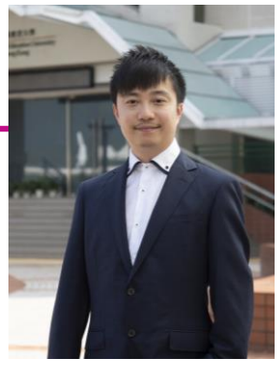
Anita M Y WONG
The University of Hong Kong

Patcy YEUNG
The University of Hong Kong

Abstract
Inter-professional education (IPE) is an educational practice that "occurs when students from two or more professions learn about, from and with each other to enable effective collaboration and improved health outcomes". There is a need for professionals in educational settings (e.g. teachers, speech therapists, social workers) to use their collective knowledge to provide an optimal plan of care for students with Special Education Needs (SEN). IPE has been developed for some university programs in Hong Kong that work within the medical setting, but there is a need to develop IPE in programs related to education. This project developed a course and e-learning resources to establish interprofessional education in a speech-language therapy program in Hong Kong. The instructional design integrated case-based simulation and reflective exercises, which was facilitated using online teaching (via ZOOM) breakout rooms. The use of recorded interviews of professionals who work with children with SEN were used to describe the professional roles & responsibilities and barriers and success stories of interprofessional practice in educational settings. The delivery of the course online facilitated the small group simulations and discussion, as well as a cross-program lesson with undergraduate students from pre-service speech therapy and kindergarten teacher training programs. This project demonstrates the feasibility of the online mode of this IPE course to train pre-service professionals who will serve children with SEN in educational settings upon graduation. The limitations of this project and the areas for expansion will be discussed.

Keywords: Case-Based Learning, Interprofessional Education, Simulation Exercises, Speech Language Therapists, Teacher Education

Promoting Pre-service Teachers' Psychological Competence for Online Learning and Teaching: The T.E.A.C.H. Programme



8 Dec 2021 I 16:50-17:10

Chun Yip Henry HO
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Abstract
Hong Kong has faced the suspension of primary, secondary, and post-secondary schools due to COVID-19, which has put over one million students out of the classroom. Educators were abruptly forced to shift to online and virtual classes without sufficient time and resources to prepare for such an enormous transition. While shifting from traditional face-to-face format to modern e-learning ensures that students can be educated outside of the classroom, its impact on the quality of learning and teaching can be mixed because professionals cannot solely rely on conventional teaching approaches. This project aims to address the knowledge gap in the traditional teacher-training by developing an online programme called "T.E.A.C.H." to enhance pre-service teachers' psychological competence for conducting online L&T. This programme consists of five modules, with each focusing on a specific domain of psychological competence (i.e., creativity, curiosity, love of learning, judgment, and perspective) and applied to the 'three foci' for online L&T (i.e., attendance and participation, engagement, and assessment). The modules consist of lecture videos, readings, practical tips and suggestions, and e-learning resources. The learning experience is consolidated and enriched by a series of interactive activities, practice exercises, critical evaluations, reflections, and short quizzes. The effectiveness of the programme for enhancing pre-service teachers' psychological competence and online L&T outcomes are assessed through questionnaire measures, objective behavioural tasks, and knowledge checks. Pre-service teachers are expected to show more positive attitudes toward online L&T, higher self-efficacy to teach online, greater motivation to use information and communication technologies, and increased online pedagogical competence.

The Role of an Active Learning-based Online Professional Development Course in Shaping Research Postgraduate Students' Approaches to Teaching

9 Dec 2021 I 11:45-12:05

Mansurbek KUSHNAZAROV
The Hong Kong University of Science and Technology

Crystal Jing LUO
The Hong Kong University of Science and Technology

Abstract
To prepare well for their teaching duties, research postgraduate students (RPGs) should receive quality teacher training that will help them meet the new standards and expectations brought about by the transition from teacher-centeredness to student-centeredness in higher education teaching and learning. To provide such training, we designed an active learning-based course that implemented various educational technologies. Specifically, active learning approaches of case-based learning, group learning, and technology-enhanced learning were incorporated into the design of the professional development course that was offered fully online due to the COVID-19 pandemic. To evaluate the effectiveness of the course design in nurturing student-centered teaching in the RPGs, we relied on Approaches to Teaching Inventory (ATI). Although ATI has been used extensively in evaluating the influence of traditional lecture-style teacher training courses, its application in online courses has been limited. Furthermore, we administered a self-constructed survey to obtain feedback on the quality of instruction and technology used in the course. The results from ATI showed that there was a statistically significant improvement in the RPGs' student-centered and teacher-centered teaching approaches. The quality of instruction, achievement of the learning objectives, and the overall effectiveness of the course were considered high. Moreover, the utilization of Canvas LMS for delivering online learning materials, Zoom for synchronous sessions, and Miro for online synchronous and asynchronous collaboration was found well received by the RPGs. The study findings may help inform the design of similar training courses in the context of Hong Kong and beyond.

Keywords: Active Learning, Approaches to Teaching, Online Course Design, Student-centered Learning, Teacher Training

Students as Partners in Implementing and Evaluating Virtual Learning and Teaching

9 Dec 2021 I 12:05-12:25

Alice LEE
The University of Hong Kong

Phoebe WOO
The University of Hong Kong

Abstract
The outbreak of COVID-19 has drastically changed the education landscape. Within a short time and without much preparation in advance, classrooms were transformed and moved online. Teachers poured effort into utilising and experimenting with online learning tools in the hope of maintaining the same level of interaction and effectiveness as before; however, some students stayed passively on the recipient's end. We (students and teachers) believe that students could also play an active part. To find out how virtual learning and teaching can be improved, we together with teachers and students from various disciplines carried out a teaching development grant project. We collaborated in designing and distributing online questionnaires and conducting face-to-face/virtual interviews to collect feedback from local and overseas students, and then worked out an e-learning guide for the university. To take a further step in exploring students' role in virtual learning and teaching, we (students and teachers) have co-designed educational videos as exemplars for an innovative learning activity where students can showcase their creativity in producing multimedia teaching materials. In our presentation, we will (1) explain why student-teacher partnership is conducive to effective implementation and evaluation of virtual learning and teaching; (2) share our experience in the teaching development grant project and our findings which support a student-driven approach to virtual learning and teaching; (3) share how students in an undergraduate compulsory course contributed to its teaching; and (4) give recommendations on how to improve virtual learning and teaching. Our findings and experience shall be relevant to any discipline.

Keywords: Cross-disciplinary, E-learning Guide, Evaluation, Student-teacher Partnership, Virtual Learning and Teaching

Supporting Secondary School Teachers to Implement Flipped Classroom During the Pandemic: Challenges and Solutions

9 Dec 2021 I 12:25-12:45

Carmen K M LAU
The Chinese University of Hong Kong

Paul LAM
The Chinese University of Hong Kong

Abstract
Hong Kong was hit by various waves of COVID-19 outbreak in the past year. With schools closed indefinitely, teachers and students had no choice but to quickly adopt online teaching even when most of them were in denial about its effectiveness. Funded by The Hong Kong Jockey Club Charities Trust, the Chinese University of Hong Kong and Hong Kong Baptist University carried out the Jockey Club "Flipped Learning" Pilot Project and recruited 16 secondary schools as partner schools amid the pandemic. Numerous support and resources, including consultation sessions by subject experts, ready-made videos for pre-class learning, a newly developed learning management system, and professional development workshops, were provided to the partner schools to guide their teachers to implement flipped learning in both online and face-to-face environments. To understand the effectiveness of the services provided and the pedagogy in the online environment, we developed an interview protocol with reference to the Learning Environment, Learning Process and Learning Outcomes (LEPO) framework and invited about 20 teachers to participate in focus group interviews. Despite all the challenges faced, most teachers agreed that flipped classroom was an effective solution to compensate the loss of class time and keep up with the learning progress. Using the interview data, this presentation will discuss the challenges faced by the teachers and how they turned the situation around with effective flipped classroom strategies.

Keywords: Blended Learning, Emergency Remote Teaching (ERT), New Normal in Education, Pedagogy, Virtual Flipped Classroom

Teaching Multiplication Tables Online by Animations with Songs

10 Dec 2021 I 10:30-10:50

Ka Luen CHEUNG
The Education University of Hong Kong

Abstract
The purpose of this study is to analyze the application of animations with songs developed by the researcher in the learning and teaching of basic multiplication and multiplication tables. A series of 10 short cartoon animations with easy-to-sing songs were developed by the researcher for this purpose in primary mathematics. Not only the relation between repeated addition and multiplication is featured in the instructional design of the animations, but also the strategy of teaching learners to use "Looking for Patterns" in the learning of multiple table rather than memorization has been used. The animations have been uploaded to a Google Site that are available to support Virtual and Blended Teaching and Learning. An action study about the application of the animations was carried out with the help of 6 teachers who were teaching on the 2nd grade of 3 primary schools in Hong Kong. Guidelines were given to the teachers about how the animations should be used. At the end of the teaching, online survey for the 6 teachers and 15 students were collected for their views on the songs and animations. It was observed that the students find them helpful for the learning and memorizing of multiplication tables, they also thought that the learning has been made more interesting with them. The teachers found them useful in helping students to summarize and memorize the multiplication facts. According to the views of the teachers and the students, the animations have been described as useful and enjoyable.

Keywords: Animations, Basic Multiplication, Looking for Patterns, Multiplication Tables, Online Learning

The Transition to Blended Teaching and Learning for Creative Media

10 Dec 2021 I 10:50-11:10

Ho-Lam LAU
UOW College Hong Kong

Abstract
The coronavirus pandemic has led us to adapt new normal in many aspects, the mode of teaching and learning has no exception. Transiting from the traditional mode, blended learning allows face-to-face teaching and learning through online platforms with digital resources and technology means. Under the coronavirus pandemic, this traditional mode of teaching and learning of creative media subjects has to be changed from in-person mode to online mode. Creative media is a subject area with tons of hands-on practices, classroom activities play essential roles in teaching and learning. In its tradition, technical skills such as the control of equipment, the use of software and the connection of digital components are taught through the demonstration of course instructors and students learn the skills by completing their projects under the supervision of tutors. This presentation shares the experience of transition to blended teaching and learning of creative media subjects. We focus on three subjects with different nature: digital design, video production and creative electronics. Experiences in attempting the enriched virtual model, flex model and project-based model in these courses are reported. We review the whole transition process, from preparation of course outlines, selection of teaching and learning activities, design of assessment tasks to course delivery and project grading. We compare the teaching and learning questionnaires of the same subjects in two different cohorts, one conducted in face-to-face mode and the other one conducted with blended learning mode. The preliminary results are positive which indicate the effectiveness of the transitions. In summary, this case study reflects various success and fail tries of changes made in different course aspects and makes suggestions to other practical subject areas to transit to blended teaching and learning.

Keywords: Blended Teaching and Learning, Case Study, Creative Media

Training Data Citizen and Citizen Data Scientist: A Study of a Role-based Certification Programme in Mainland and Hong Kong

10 Dec 2021 I 10:10-10:30

Patrick TSOI
Hong Kong Baptist University

Abstract
In 21st century, data literacy become more and more important to meet the social needs. People now require several literacies and skills to be competent and successful in the society. These include problem solving skills, communication skills, data literacy and information literacy. It is expected that these literacies and skills can be further enhanced and improved through formal data science education programmes. With the use of new technologies, the pedagogy for teaching and learning data science needs enhancement. This study attempted to examine the effectiveness of implementing Case-based Learning (CBL) with the use of Open-Source Projects (OSP) as learning and teaching resources in delivering a data science certification programme in Mainland and Hong Kong. Specifically, this mixed research study had explored (1) how trainers facilitate CBL with the use of OSP as learning and teaching resources and the challenges they face in delivering data science certification training programme; (2) how students' perceptions on the usefulness and ease of use of the OSP, and their engagement in the Learning Management System (LMS) and CBL, affect students' performance in certification examinations; and (3) how the blended learning mode adopted by the participants in Hong Kong and the full online learning mode adopted by the participants in Mainland affected the students' engagement in the LMS and CBL. The results found had set up a benchmarking for training Data Citizen and Citizen Data Scientists in the areas.

Keywords: Case-based Learning (CBL), Citizen Data Scientist, Data Citizen, Data Science Certification, Learning Outcomes

Undergraduate Students' Experience of Online Learning During COVID-19: Findings from Quantitative and Qualitative Analyses

9 Dec 2021 I 10:10-10:30

Yvonne CHAN
The University of Hong Kong

Jenny HUEN
The University of Hong Kong

Ting Ting LI
The University of Hong Kong

Maggie Yue ZHAO
The University of Hong Kong

Abstract
The switch from face-to-face teaching and learning to online/ hybrid teaching and learning (hereinafter referred to as online learning) in response to the COVID-19 pandemic was an unexpected challenge to higher education. Understanding students' experience of online learning in an evidence-based approach would be instructive to teaching and learning during COVID-19. In the current study, we used a mixed methodological approach to examine undergraduate students' experience of online learning, based on quantitative responses (N = 5136) and open-ended comments (N = 1837) collected from an annual institution-wide survey at a university in Hong Kong. Results from multiple regression analysis showed that students' ratings on the use of technologies to support teaching and learning was the strongest predictor of their satisfaction with the quality of the overall learning environment (e.g., learning resources, opportunities to engage with other students, etc.) and their teaching and learning experience (e.g., support received, skills developed, etc.). Similarly, online learning was one of the key concepts and themes in students' open-ended comments (n = 224). A considerable number of students regarded the effective use of technology in enhancing teaching and learning as one of the best aspects of university experiences. Also, some students provided feedback on the challenges of online learning and suggestions to turn these challenges into opportunities (e.g., application of e-tools to facilitate active learning, online channels to enhance bonding, etc.). Implications of both quantitative and qualitative findings are discussed towards the direction of enhancing quality teaching and learning with online components.

Keywords: COVID-19, Learning Experience, Online Learning, Satisfaction, Teaching and Learning Environment

Using Flipped Classroom and Blended Learning Pedagogies to Enhance Non-Chinese Speaking Learners' Acquisition of Chinese Language: A Pilot Study

10 Dec 2021 I 09:50-10:10

Ching Sum WONG
The Hong Kong Polytechnic University

Abstract
Flipped classroom and blended learning strategies are increasingly being adopted by education institutions that see in these novel pedagogies, they are proved to have positively influence students' perceptions of engagement, performance and satisfaction. Apart from conventional teaching and learning, flipped classroom creates a dynamic, interactive learning environment where teacher guides students as they apply concepts and engage creatively in the subject matter, blended learning encourages the use of multimedia technologies, it is an integration of online and face-to-face learning. To strengthen the effectiveness of teaching and learning, this research aims at introducing the student-oriented approach and technology-based strategies in Chinese language classes that are designed for non-Chinese speaking students at beginners' level in a Hong Kong university. In-class activities such as BlackBoard pollings, group discussions, video studies, individual and group presentations were introduced, at the same time, outside classroom activities such as BlackBoard discussion forums, social media groups for knowledge exchange, role play video productions, and class preparations were suggested. In the post-pandemic era, it was found that the combination of flipped classroom and blended learning pedagogies will facilitate a more effective learning. Nevertheless, technologies should not be adopted alone, teacher guidance and peer support will be proposed as another two important approaches. Consequently, this paper will suggest that teachers should place more emphasis on using integrated strategies to enhance students' performance on learning Chinese language, especially the acquisition of Chinese characters and speaking skills, not only for beginners' level, but shed some light on other levels in the future.

Keywords: Blended Learning, Chinese Language Education, Flipped Classroom, Non-Chinese Speaking

Using H5P to Enrich Online Learning Engagement in a Postgraduate Certificate Programme Teaching

10 Dec 2021 I 09:30-09:50

Na LI
Xi'an Jiaotong-Liverpool University

Charlie REIS
Xi'an Jiaotong-Liverpool University

Abstract
The COVID-19 pandemic has accelerated the educational transition from traditional face-to-face to fully online or hybrid learning. Online learning engagement has long been considered essential to effective learning and teaching, but with many challenges (e.g., learner autonomy, cyber distraction and digital competence) in higher education, especially in the post-pandemic. The extant literature pays more attention to empirical studies under the western context than the eastern context. To address the above problems, this paper aims to examine to what extent that using H5P, a free and open-source content collaboration platform, could enrich online learning engagement in a hybrid mode teaching of the Post Graduate Certificate in Teaching and Supporting Learning in Higher Education (PGCert) in a Sino-British transnational university in China. The H5P provides interactive video, quiz, presentation and visualized knowledge test games to enrich the learner engagement in the blended learning environment. We analyze the data collected from two data sources: (1) the online digital behavioral logs of a course PGC404 on the university learning management system and (2) the semi-structured self-reported survey responses from the PGCert participants. The main contribution of this research lies in presenting the empirical evidence of how learning technologies could enhance learning and teaching in a hybrid learning environment for teacher professional studies in higher education. Challenges and reflections in curriculum development, instructional design and course delivery are discussed for future practices and research consideration.

Keywords: H5P, Higher Education, Learning Engagement, Online Learning, Transnational

The Application of BOPPPS Model in Blended Classroom of University Moral-political Education Courses in Mainland China: Challenges, Changes, and Conflicts

8 Dec 2021 I 10:10-10:30

Huaxin YANG
Guangxi University for Nationalities

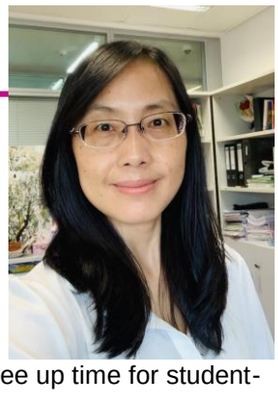
Yuxiong LI
Guangxi University for Nationalities

Abstract
In recent years, great emphasis from the Chinese government has been put on university moral-political education (MPE) courses, as it expects enhancing the effectiveness of MPE for university students through the reform of teaching and learning of the courses. Meanwhile, Mainland universities have been competing for the national first-ranking award for their courses including MPE courses. These reform and competition demands prompted an actual, critical, and creative change of the course practice in classroom. This proposed study aims to explore the application of BOPPPS (Bridge-in; Outcomes; Pre-assessment; Participatory Learning; Post-assessment; Summary) model within the blended classroom (a blend of online and offline teaching and learning) of one MPE course by studying the reform conducted by Guangxi University for Nationalities. BOPPPS is a model for lesson planning that has been adopted by many universities around the world. Student-centered as the philosophy underpinning this model brings a big challenge to the accustomed teacher-centered model of MPE course practice. Challenges also come from the combination of BOPPPS model and blended classroom, and the suitability of this model for characteristics of MPE courses such as theoretical, politically-correct, value-weighted, and indoctrination-oriented. The presentation will report some initial data, collected from class observation, questionnaire survey and interview with teachers and students, on the real practice of application, which reveals the specific approaches that teachers used to adapt the model to the course, students' experiences of and feedback on this new learning model, and the implicit conflicts between the new model and the characteristics of the course.

KEYWORDS: BOPPPS Model, Blended Teaching and Learning, Moral-political Education Course, University, China

Quality in Higher Education Management, Teaching and Learning

A Small Action Research of Using Flipped Classroom Approach to Supporting Diversity Students' Learning



8 Dec 2021 I 10:10-10:30

Chunrong SUN
University of Saint Joseph, Macao SAR

Abstract
The flipped classroom approach has been gaining substantial momentum as many studies proved that the flipped classroom approach is more effective than traditional classroom teaching. The flipped classroom approach is a teaching model that moves most of the teacher-centered direct teaching out of the classroom and leaves more free up time for student-centered learning activities. This study aims to examine the effects of using the flipped classroom approach during a Bachelor's course at a small private University in Macao. Half of the course was taught in a traditional teacher-directed lecture style while the remaining half was replaced by the flipped classroom approach. The face-to-face interview was conducted with the students to gather information about their experiences of the flipped classroom approach. Tutor's /research's reflections were analyzed to gain further insights on the effects of using the flipped classroom approach on students' learning. The results of this study showed that most of the students shared they preferred the flipped classroom approach and the tutor also provided positive feelings about the flipped classroom approach. Findings suggested that the flipped classroom could contribute to diverse students' learning. Although it is only a small study, this study sheds light on the feasibility of implementing the flipped classroom approach in higher education.

Keywords: Action Research, Diversity, Flipped Classroom Approach, Students' Learning

From Coalescence to Maturation: An Exploration of Two Developmental Stages in a Community of Practice

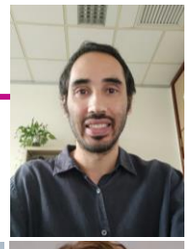
8 Dec 2021 I 10:50-11:10

Mark Mingde CHIA
Republic Polytechnic, Singapore

Abstract
This is a qualitative study of a Community of Practice (CoP) comprising in-service lecturers in terms of their perceived value of CoPs, and how those perceptions of value changed over the coalescing and maturing stages of the CoP's lifecycle. Of 13 lecturers involved in the two-year programme, 8 lecturers provided informed consent to participate in two separate semi-structured interviews, the first was conducted at the one-year milestone since the CoP's initial formation (coalescing stage), while the second was conducted at the second-year milestone (maturing stage), after which responsibility for stewarding the CoP was fully transferred to the school. A content analysis of manifest meaning was carried out on interview transcripts, using a posteriori coding, with meaning units determined as the basic level of analysis. On a broad level, what was perceived as of value shifted from the more operationally-oriented component of Practice, to the more strategically-oriented component of Domain. On a granular level, there were significant shifts, including a greater emphasis on forming collegial relations, sustaining ongoing conversations, and challenging fellow colleagues to reflect and discuss at a deeper level. Participants reported less emphasis on external benchmarking to validate the community's knowledge capital, or for explicit leadership and formalised structures to sustain momentum, suggesting a rising level of self-directedness and confidence in the community. The data also suggests emergent needs requiring special attention, such as the need to facilitate continuous learning conversations between lecturers, platforms to facilitate ongoing sharing of ideas and resources, and training for lecturers to think systemically, rather than operationally, when problem-solving.

Keywords: Community of Practice, Professional Development, Workplace Learning

Cultivating University Students' Global Perspectives Using Affective Pedagogies



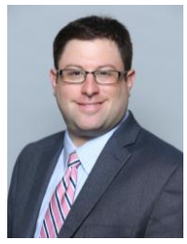
8 Dec 2021 I 09:30-09:50

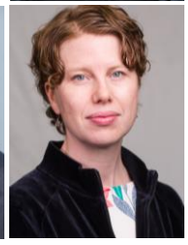
Stephen CHATELIER
The Education University of Hong Kong

Michael THIER
International Baccalaureate

Emma E BUCHTEL
The Education University of Hong Kong

Eric Kwan Wai YU
The Education University of Hong Kong

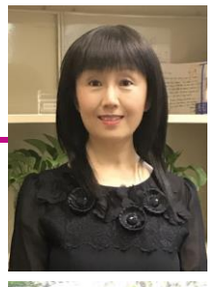




Abstract
Contemporary processes of globalisation have led us individually and collectively to grapple with affordances and challenges of living, learning, and working on an increasingly interdependent planet. Consequently, developing the dispositions, knowledge, skills, and behaviors to navigate local and global ambiguities that arise from interdependence has become an important task of education. While the affective dimension in developing positive global perspectives seems clear, teaching approaches often prioritise the cognitive component of knowledge. We present preliminary theoretical and empirical work from an EdUHK Teaching Development Grant project, involving almost 20 university teachers across disciplines and the globe, to develop affectively-oriented pedagogical activities for the teaching of internationally-focused course content. Theories of affect tend to resist the reason-emotion binary. Therefore, to assess effects of these affective pedagogies quantitatively, we've developed brief pre- and post-class surveys for students measuring how affective engagement in the activity (e.g. experience of curiosity, enjoyment, pity) is related to gains in global affective attitudes (e.g. valuing other cultures, interest in interacting with cultural others), as well as gains in global knowledge (e.g. knowledge of other cultures). This project promises to advance both the theory and application of affective pedagogy in the interest of cultivating students' affective commitment to being global citizens.

Keywords: Affective Pedagogies, Global Citizenship, Global Perspectives, University Teaching

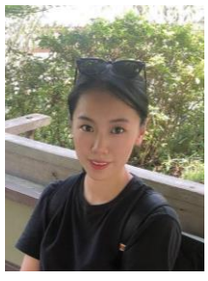
Development and Implementation of a "Self-regulation Scheme" on a Mobile App to Enhance Students' Self-regulated Vocabulary Learning



8 Dec 2021 I 11:10-11:30

Yanjie SONG
The Education University of Hong Kong

Yin YANG
The Education University of Hong Kong



Abstract
This article reported on a study of developing and implementing a "self-regulation scheme" on a mobile vocabulary learning app – Vocab+ to enhance students' self-regulated vocabulary learning (SRVL). Premised on self-regulatory processes, the proposed self-regulation scheme embedded in Vocab+ in this study allows students to set vocabulary learning goals (e.g., specify the number of words to be learned and the amount of time spent on learning), monitor the learning process (e.g., view learning status via the dashboard and categorise the mastery levels of vocabulary) and reflect on their learning performance (e.g., do quizzes and complete self-evaluation forms). Vocab+ enables students to take pictures of objects/information related to the newly learned vocabulary tagged with GPS-located context information. This study aimed to examine the effects of a self-regulation scheme embedded in Vocab+ on students' English vocabulary learning outcomes and their perceived self-regulation skills. A total of 45 undergraduate students in Mainland China were involved. A quasi-experimental design method was adopted. Students in the experimental and control groups used Vocab+ with and without a self-regulation scheme to support vocabulary learning for two weeks. Data collection involved: (1) pre-and post-vocabulary tests and (2) pre- and post- questionnaires. The results show the positive effects of the self-regulation scheme on university students' vocabulary learning outcomes and perceived self-regulation skills. Future improvements to the self-regulation scheme will be made based on students' feedback. The current study contributed to the practices of technology-enhanced SRVL research and benefited the future design of tools to support SRVL.

Keywords: Self-regulated Vocabulary Learning, Self-regulation Scheme, Self-regulation Skills, Vocab+

Development of a Creative Thinking Skills Self-report Inventory in a Community of Practice (CoP) Project

8 Dec 2021 I 14:00-14:20

Cheung-On TAM
The Education University of Hong Kong

Anita Kit-Wa CHAN
The Education University of Hong Kong

Eric Chi-Keung CHENG
The Education University of Hong Kong

John ROGERS
The Education University of Hong Kong

Xue Ying TAN
The Education University of Hong Kong

Abstract
As reflected in different surveys across the university, creative thinking skills appear to be a common area of challenges in students' achievements. A Community of Practice (CoP) project involving eleven university teachers teaching different disciplines was initiated to develop pedagogies that can enhance students' creative thinking skills. To measure the changes in students' level of creative thinking skills and effectiveness of the pedagogies, a domain-general self-report inventory was developed to be used as one of the assessment tools. Since creative thinking is a generative process the inventory is designed to be mainly process-based, with most items describing actual behaviours and a few person-based questions. Eight criteria of creative thinking skills were identified in the inventory with reference to the Torrance Test of Creative Thinking (TTCT) and the university's Generic Intended Learning Outcomes Rubrics (GILO Rubrics). Prior to implementation of the study, a pilot test was conducted by collecting responses from 83 students not included in the research population. After testing the reliability and construct validity using SPSS, 40 out of 64 items were chosen to form the final version of the inventory. The self-report scale can be used as a baseline assessment to provide university researchers and practitioners with a description of students' creative thinking ability across disciplines. The presentation will focus on the considerations, challenges and outcomes of the development of the self-report inventory, as well as its practical implications.

Keywords: Creative Thinking Pedagogies, Creative Thinking Skills, Creativity Assessment, Higher Education, TTCT

Drama-based Pedagogical Approach to Psychology in Daily Teaching Practices

8 Dec 2021 I 14:20-14:40

Yiu-Bun CHUNG
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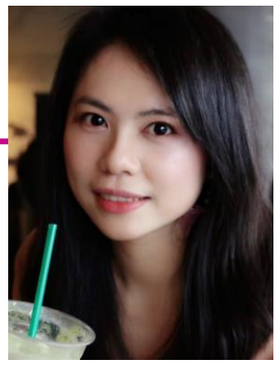
Lawrence Ka-Yin MA
The Education University of Hong Kong

Abstract
The Drama-based Pedagogy (DBP) constitutes an interactive drama approach to facilitating student engagement through dialogic meaning making in all areas of the curriculum, which has been demonstrated to enhance learning in terms of active participation, creative thinking, problem-solving, critical thinking, and communication skills. All these enhancements are compatible with the learning outcomes of Psychology learning in a tertiary educational context. Through the processes of role-making and role-taking in semi-authentic scenarios, DBP has been well-documented to enable students to better understand the psychological theories and the problems in teaching practices. Due to the COVID-pandemic, the initially planned drama performances had to take place in a virtual context via Zoom. Student helpers, who are fellow undergraduates at a local university, undertook to play the roles of teachers and students within a Zoom class session. Seven common scenarios pertaining to student misbehaviors in daily teaching practices—while embedded in three designated episodes—were featured in the performance, in addition to a separate forum discussion session immediately after each episode. Two 3-hour training sessions, in the form of interactive drama performances, were successfully conducted in Cantonese (local dialect) and English in 2020 and 2021, respectively. Via this presentation, we intend to not only walk you through the "how" of the Project (i.e., the implementation of a drama in a Zoom context), but also "what" we observed from the students throughout, regardless of their roles as a student helper or as an actor-spectator during the training. Future development of the project will also be discussed.

Keywords: Classroom Management, Drama-based Pedagogy, Learning and Teaching Psychology, Teacher Training, Zoom Drama

Early Childhood Teachers' Perceptions of Professional Competence in China: The Transition from Initial Teacher Education to Beginning Teaching



9 Dec 2021 I 12:25-12:45

Quan ZHOU
The Education University of Hong Kong

Abstract
Teachers tip the scales. In China, teachers in early childhood education (ECE) settings have been counted by the Ministry of Education (MoE) as relatively low educational attainment. The less chance of receiving systematic initial teacher education (ITE), the slighter possibility for early childhood teachers to cultivate their professional competence. Even worse, their transition from student teachers to beginning teachers is struggling. In this study, beginning early childhood teachers' professional competence in the transition stage has been focused on. Teachers' professional competence has been nominated as what teachers need to equip with for their professional practice in this study. It is the outcomes of ITE that synthesizing knowledge, skills, beliefs and values, as well as the prerequisite of beginning teachers that determines their readiness for and ability to perform well in professional activities. To collect teachers' perceptions of professional competence, four dimensions have been measured in this study, including their professional competence in cognition-related domain, teaching-related domain, social-related domain and child-related domain, and a longitudinal study was designed. Two rounds of interviews have been conducted with beginning early childhood teachers in Mainland China. Beginning teachers' perceptions have been recorded and analyzed. With children's artifacts and teaching documentations, the research questions will be met. As a result, 1) beginning teachers' perceptions of their professional competence and relevant influential factors in ITE were collected when graduating; 2) their perceptions would be gathered again after one semester's teaching; and thereby, 3) their developmental pattern of professional competence during the transition will be exposed. The research will be significant to knowledge building, policy formulation, and practice guidance: a competence framework to beginning early childhood teachers in Chinese circumstance will be put forward; the supportive policies and regulations concerning the transition stage will be inspired; and finally, the preferable training opportunities both in ITE and beginning ECE, and the possible assistance in the transition stage, will be advocated.

Keywords: Beginning Teachers, China, Early Childhood Education, Initial Teacher Education, Professional Competence

Enhancing Microteaching Through Peer Review and Reflection

8 Dec 2021 I 14:40-15:00

Chin-Hsi LIN
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The University of Hong Kong

Zicong SONG
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Keyi ZHOU
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Abstract
Alongside a shift towards competence-based learning in teacher education, microteaching is an increasingly important pedagogical approach to developing preservice teachers' core professional practices. Yet, how to design effective microteaching activities remain largely unexplored. The study developed a technology-enhanced microteaching model, incorporating two activities – peer review and reflection – that have previously been found highly beneficial to the development of preservice teachers' practical knowledge. To test it, we implement the new model in two undergraduate courses in a Hong Kong university this Fall semester and the data collection is in progress. Specifically, students' questionnaires, assignments and interviews are being collected to evaluate the new microteaching mode. To determine the efficacy of such a model on students' core professional practice and self-efficacy, pretest questionnaires have been collected and the posttest questionnaires will be completed at the end of the course. Students are invited to join in semi-structured interviews to describe what they obtained and give suggestions for promoting the mode. The microteaching, lesson plan, peer review, and reflection of all participants are also be used to evaluate their development of core professional practices. According to the data collected so far, participants' perceptions of integrating technology into microteaching were overwhelmingly positive. They felt they developed core professional practices, especially designing student-centered activities with the strategies they learned. Meanwhile, they became active in peer review and reflection through the online platform and gave more critical and valuable feedback such as specific problems in microteaching and actionable solutions.

Keywords: Feedback, Microteaching, Peer Review, Preservice Teachers, Reflection

Enhancing Student Learning Experiences in Higher Education in Hong Kong: Processes of Academic Engagement in Relation to the Affective Dimension of Learning

10 Dec 2021 I 10:50-11:10

Esme SUNG
Hong Kong Community College, The Hong Kong Polytechnic University

Abstract
Academic engagement refers to the time, effort and energy students invest in their study. Faculty members are concerned about engaging university students in learning, as studies showed students' academic engagement predicts their academic performance. Rather than being static, academic engagement is malleable and susceptible to contextual influences, thus exploring factors promoting engagement is helpful for educators to enhance student learning. However, extant studies are inclined to quantitative measures, with less attention being given to explore the contextual influences contributing to students' engagement. To address this gap, the present study adopted a mixed approach, consisting of self-reported surveys and semi-structured interviews to address the complexity of academic engagement. Findings from the survey indicated a reciprocal relationship between academic engagement and Psychological Capital (PsyCap), and the PsyCap components of hope, self-efficacy and resilience were particularly found to be significant predictors for students' academic engagement. Findings from the interviews revealed the important role of the affective dimension of learning as participants recalled the influence of such affective elements as positive emotional experiences, students' interest in learning and PsyCap in fostering their engagement and sustaining their persistence in study despite setbacks and challenges. To sum up, findings of the study contribute to the literature by revealing the currently under-researched affective dimension of learning, which was found to foster students' engagement. Together with the positive and reciprocal linkage identified between PsyCap and engagement, the present study illuminates possible avenues for educators to promote academic engagement in university students.

Keywords: Academic Engagement, Affective Dimension of Learning, Higher Education, Hong Kong, Psychological Capital

Examining Pre-service Mathematics Teachers' Noticing of Exemplary Mathematics Lessons: An Exploratory Study

8 Dec 2021 I 15:40-16:00

Yang CAO
The Education University of Hong Kong

Qiaoping ZHANG
The Education University of Hong Kong

Abstract
教師對課堂教學的關注力是實施有效教學的重要組成部分。重視職前數學教師的關注力，有助於提升他們對課堂教學的理解。當前教師關注力的研究主要在西方的教育情境下开展，缺乏對東方課堂教學的認識。本研究旨在探究中國大陸職前數學教師對優質數學課的教學關注能力表現。研究採取在線問卷調查法，研究對象為中國大陸廣東省某高校 86 位職前數學教師。研究借助開放性關注框架和焦點式關注框架，調查他們對中國大陸小學數學優質課中代數領域教學視頻的關注內容和解讀。研究採用描述性統計和內容分析方法，結果發現：1.職前數學教師對優質數學課教學的關注範圍偏窄，以數學教學內容和師生互動為主，缺乏對課堂環境、課堂管理的關注；2.職前數學教師對所關注的內容僅能提供簡單的解釋，未能結合學生學習水平和教師的教學設計進行全面和深入的分析。本研究建議中國大陸的職前數學教師教育需重視教師關注力的提升，同時對教師關注框架應用於教師教育課程提出具體的建議。

Keywords: 教學關注能力，焦點式關注框架，開放性關注框架，職前數學教師

Exploring Sub-degree Students to Learn Desirable Difficulties: The Study of Project-Based Learning

8 Dec 2021 I 15:00-15:20

Yui-Yip LAU
The Hong Kong Polytechnic University

Ivy CHAN
The Hong Kong Polytechnic University

Carmen SUM
The Hong Kong Polytechnic University

Joyce CHENG
The Hong Kong Polytechnic University

Abstract
Extant studies suggest that students are disposed to rote-learning strategies by attempting repetitively on drilling exercises, multitudinously read, and memorization of prescribed content in classes. Those strategies are deemed effective as they promote cognitive fluency and boost immediate performance gain such as strong content familiarity, efficient recall of concepts from their working memory to cope with summative assessment. However, research results showed they are in fact detrimental for learning as learners become aversive to challenges, hardly to engage critical thinking and unable to retain knowledge in long run. Our exploratory study incorporated the learning practices, "desirable difficulties" advocated by Bjork and responded to the call for educators to prepare students for life-long learning and engaged 132 sub-degree students to complete an array of learning tasks that constituted to an authentic business subject called Training and Development. Students started with scant knowledge and skills, and thereafter learned to surmount various knowledge for quality work. After 13-week of study, 130 students responded to a survey of their learning experience and effectiveness. The results showed that when the project started, students felt vulnerable towards the desirable difficulties as more errors were made, compared with their prior learning experience. However, their endeavors and efforts to tackle the challenge induce active encoding and association of their knowledge resided in memory, ultimately benefit long-term retention and transfer. Educators can engender 'desirable difficulty' in instructional design and equip our students for better learning outcomes.

Keywords: Desirable Difficulty, Instructional Design, Learning, Project, Student Engagement

Extra-curriculum Learning Activities as an Approach to Enhancing Senior-Year-Admitted Undergraduate Students' Graduate Attributes




10 Dec 2021 I 10:30-10:50

Kelvin WAN
Hong Kong Baptist University

Theresa KWONG
Hong Kong Baptist University

Ivy LI
Hong Kong Baptist University

Chong XIAO
Hong Kong Baptist University

Abstract
For higher education in Hong Kong, in addition to the first-year-first-degree admission to undergraduate programmes, students can also be admitted as senior-year entrants. This senior-year-admission (SYA) approach is based on the credits transferred from students' two-year prior studies in sub-degree programmes and only requires two more years' studies to complete the bachelor's degree. Existing research identified that SYA students in Hong Kong face challenges such as heavy workload and inadaption to the university's new learning and social environment. Previous studies had suggested that extra-curricular learning experiences (ELEs) can enhance students' sense of belonging, academic performance and expand their social circles. This observational study surveyed 289 SYA students from two cohorts, intake of AY2018/19 and AY2019/20, who responded to the survey at the end of their first and second year in the university. It aims to see how ELEs could impact their graduate attributes (GAs) (e.g., citizenship), sense of belongings and academic performance. Students were divided into three groups: one-year, two-year, and no ELEs. Between these groups, significant differences in GAs and sense of belonging to the university were identified. However, there is no significant difference in students' academic performance. A further examination on the dosage and types of the ELEs showed that different dosages might relate to different GAs. It is noteworthy that studies revealed these activities enhanced their prospective GAs and their adaption to the university's two-year study period.

Keywords: Academic Adjustment, Extra-curriculum Learning, Higher Education, Transfer Students

Factors that Influence University Teachers' Perceptions of Online Teaching After the Outbreak of COVID-19

8 Dec 2021 I 15:20-15:40

Laura ZHOU
Hong Kong Polytechnic University

Leo CHON
Hong Kong Polytechnic University

Jasmine ZHANG
Hong Kong Polytechnic University

Julia CHEN
Hong Kong Polytechnic University

Abstract
Since the outbreak of COVID-19, the landscape of teaching in higher education has changed dramatically. Teachers of campus-based universities were compelled to conduct fully online teaching. The transition from face-to-face (f2f) teaching to fully online teaching was challenging or even traumatic for some teachers which may in turn have impacted their perceptions on online teaching as well as teaching quality. The objective of this study is to examine three key aspects of online teaching related to teacher perception: 1) teacher satisfaction; 2) teacher perception of online teaching competence; and 3) teacher perception of students' achievement of the intended learning outcomes. Potential factors that could influence these perceptions were identified based on literature review and teacher interviews. Then, a non-experimental study was conducted using a survey that included those factors. A total of 427 teachers at a Hong Kong university responded to the survey, giving a response rate of 31%. Descriptive and inferential analysis were conducted to analyze the data. The results show that teachers have fairly positive perceptions of the three aspects mentioned. Regression analysis indicates that beliefs on online teaching, perceived teaching workload and general skills of delivering teaching are significant variables that could predict all the three aspects. The quality of communication and support from the university and relevant stakeholders is also a significant predictor for both teachers' satisfaction and their perceived competence of teaching online.

Keywords: COVID-19, Higher Education, Online Teaching, Regression Models, Teachers' Perception

Implementing a Design-thinking Curriculum in Pedagogy Courses to Nurture Creative Teachers

10 Dec 2021 I 11:10-11:30

Bick-Har LAM
The Education University of Hong Kong

Lan YANG
The Education University of Hong Kong

Min YANG
The Education University of Hong Kong

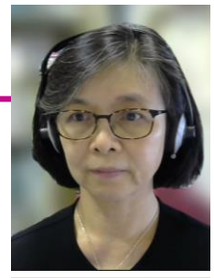
Margaret Cheuk-Wing NG
The Education University of Hong Kong

Rebecca Wing-Yi CHENG
The Education University of Hong Kong

Abstract
The effect of pedagogy courses is always uncertain as prospective teachers are using conventional methods in their block practice even after studying the courses. This paper presents a teaching development initiative of redesigining the curriculum of pedagogy courses based on a 'design-thinking' approach. This new curriculum design enables prospective teachers to master pedagogical knowledge effectively with a creative mind, supporting future teachers to become capable of teaching in an innovative way. The project runs in two simultaneous phases that mark with five design-thinking skills. In the problem phase, students are guided to 'empathise' and 'define' how a certain strategy is planned by exercising pedagogical judgement. In the production phase, students are involved in a full design thinking process for completing an innovative lesson plan, practicing three other design-thinking skills, i.e. 'ideate', 'prototype' and 'test'. This presentation shares the tentative outcomes of the first cycle project implementation based on data collected from interviews from students who studied the courses on trial, student co-developers, and professors who initiated the project. The findings suggest positive outcomes on students' belief about their capacity to perform creative work effectively (creative self-efficacy), ability of designing innovative lessons (teaching innovation) and engagement. Evaluation of students' final project is reported and the challenges that facing students and teachers through learning and teaching in an innovative curriculum will also be discussed.

Keywords: Curriculum Evaluation, Design Thinking, Pedagogical Knowledge, Teacher Education, Teaching Innovation

In-Depth Reflective Learning of Student Teachers from Field Experience During the COVID-19 Pandemic



9 Dec 2021 I 14:20-14:40

Pamela Pui Wan LEUNG
The Education University of Hong Kong

Frank Shun Shing PAO
The Education University of Hong Kong

Abstract
Teaching practice (Field Experience, FE) is perceived by students as the most challenging yet the most valuable component in their teacher education. They meet various challenges and obtain deep learning through reflection on their FE. Under the COVID-19 pandemic, student teachers have confronted unprecedented challenges in their teaching practice at the front line. This paper investigates how different pre-service teachers coped with dynamic school contexts during the special period by analysing their reflection in the post-FE ePortfolios. Following an interpretative phenomenology approach, a total of 20 FE ePortfolios with Distinction recommended by corresponding co-ordinators were collected from seven full-time teacher education programmes, coded and analysed thoroughly. Numerous outstanding themes were identified. Students demonstrated a comprehensive understanding of the placement school's educational philosophy, goals, policies, and practices; appropriately applied the pedagogical knowledge to cater for diverse needs of their students; constructively reviewed and evaluated the process and outcomes of their own teaching attempts and ethical practices, and provided reasonable solutions to the problems they confronted during their FE. In particular, students reflected deeply on their contingency teaching plans amid the COVID-19 pandemic and their experience of virtual and authentic teaching. Findings of this exploratory study can add to the literature on student learning from FE under exceptional challenging circumstances.

Keywords: COVID-19, ePortfolio, Field Experience, Reflective Learning, Teacher Education

Modelling the Relationships Among Motivational Beliefs, Collaborative Learning and Self-directed Learning in Sports Coaching

9 Dec 2021 I 14:00-14:20

David KWOK
Republic Polytechnic, Singapore

Mun Wai HO
Republic Polytechnic, Singapore

Puay KOH
Republic Polytechnic, Singapore

Abstract
The last decade has seen a rapid increase in the provision of and importance attached to coach education. Pivotal to many coach education programmes is the paradigm shift towards learner-centred approach in coaching pedagogy. However, in the literature, there is a dearth of research on students' motivated approaches for learning in sports coaching in a constructivist learning environment. Hence, this present study aims to investigate the structural relationships between motivational beliefs (i.e. task value and extrinsic goal orientation) and learning approaches (i.e. self-directed learning and collaborative learning), and examine the mediating effects among the variables. The sample comprised of 291 polytechnic students in a sports coaching course, and data were collected using an online questionnaire. Using structural equation modelling, the results showed that task value and extrinsic goal orientation were significant predictors of self-directed learning and collaborative learning. Compared to extrinsic goal orientation, task value had a stronger significant effect on the two learning approaches. Extrinsic goal orientation had a significant effect on task value, and collaborative learning significantly influenced self-directed learning. Using bootstrapping tests, the relationship between extrinsic goal orientation and self-directed learning was mediated by task value and collaborative learning. Besides, collaborative learning was a partial mediator between task value and self-directed learning. The results suggest that interventions to improve students' self-directed learning should not only focus on extrinsic goal orientation, but also to enhance task value and collaborative learning. Finally, implications for practice, limitations of the study and future research are discussed in the paper.

Keywords: Collaborative Learning, Extrinsic Goal Orientation, Self-directed Learning, Task Value

Overcoming the Tensions and Challenges of Designing Interdisciplinary General Education Curriculum in Undergraduate Education: The Case of Common Core Curriculum at the University of Hong Kong

9 Dec 2021 I 14:40-15:00

Adrian M H LAM
The University of Hong Kong

Mathew Y H WONG
The Education University of Hong Kong

Abstract
Since the 2012/2013 academic year, there is a transition from British-style three-year to United States-style four-year undergraduate degree structure across all eight publicly funded universities in Hong Kong. The additional year requires universities to come up with a broadening General Education Curriculum which complements their specialized majors. Although the actual design of General Education Curriculum varies in each institution, they are all in common in offering students an interdisciplinary learning experience. Nonetheless, given the nature of General Education Curriculum as an university-wide and inquiry-based curriculum innovation, it is simultaneously presenting tensions and challenges to many curriculum designers. Therefore, this study employed the Common Core as the porotype of interdisciplinary General Education Curriculum at the University of Hong Kong to investigate the viewpoints of academics, who are always portrayed as the "change agents" of every curriculum. A series of semi-structured interviews with 28 academics from 7 faculties were conducted and further analyzed through looking into how curriculum designers can strike an optimal balance among the idealistic expectations, institutional constraints, and practical concerns as experienced, understood, managed, and navigated among academics when introducing the curriculum. Moreover, a visualized three-dimensional framework was proposed to show how General Education Curriculum could be coherently and systematically structured from the bottom-up, middle-out, and top-down dimensions within an institution, including faculty members, faculties and departments, and senior management and administration respectively. It is hoped that academics can adopt, adapt, and integrate these elements and strategies, so as to enhance the overall quality of learning and teaching.

Keywords: Curriculum Design, General Education Curriculum, Higher Education, Hong Kong, Interdisciplinary Education

A Pilot Study on the Students' Acceptance of Using Online Video Clips for English Pronunciation Learning

8 Dec 2021 I 10:30-10:50

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Abstract
This pilot study adopted a quantitative approach to study the acceptance of using online English pronunciation video clips at a higher education institution in Hong Kong. Each of around 2 to 5 minutes, these online video clips were designed to correct the common mistakes made by Hong Kong Cantonese learners of English in pronouncing academic words. This study was based on an extended and adjusted Unified Theory of Acceptance and Use of Technology model. Specifically, it explored the effect of the students' relevance for major (MR) on their perceived performance expectancy (PE), as well as the effects of the students' PE, effort expectancy (EE) and social influence (SI) on their behavioral intention (BI), of using those video clips. A convenience sample of 23 associate degree students studying the general education elective "Oral Communication in English" completed an online questionnaire which was designed to capture their MR PE, EE, SI and BI. Correlation analysis was performed to evaluate the effect of MR on BI, while multiple regression analysis was carried out to investigate the combined effect and relative effects of PE, EE and SI on BI. The analytical results indicated that SI influences BI significantly. This study is expected to provide insights into how English pronunciation pedagogy using online short video clips can be implemented for higher education students in Hong Kong.

Keywords: Behavioral Intention, Effort Expectancy, English Pronunciation, Performance Expectancy, Social Influence

The Reforming Perform-Based Evaluation for University Teachers in Mainland China: Analyzing from Principle-Agency Perspective

10 Dec 2021 I 12:25-12:45

Yu MENG
The Chinese University of Hong Kong

Manhong LAI
The Chinese University of Hong Kong

Abstract
表現為本的政策評估在高校的實踐中越發普遍，以致新頒佈的“破五唯”要求則希望扭轉過於注重量化指標的評估體系，高校聘用制度改革即在多重改革力量的張力之中，影響著高校教師的評價體系與職業穩定性。本研究從委託-代理關係出發，基於對大陸高校教師的訪談，探究大學及院系層面如何通過目標設定、信息傳遞及激勵手段達成與學者個體的委託-代理關係，雙方又分別對基於個人表現展開的大學聘用方式改革持有怎樣的理解與評價。本研究發現，學術領導及學者個體對大學聘用方式變革實踐的感知與評價不盡相同。詳細的目標設置給學者帶來有限的掌控感，而以組織目標為重卻導致學者個人需面對的風險增加；在信息傳遞方面，學者個體的行動偏離未成為學術領導的關注點，且因行動均受制於不穩定的政策，學術領導與學者發展出共同協商的空間；此外，以效率為重的激勵方式受到學者認可的程度有限。當前高校教師評價體系轉型，仍需在目標設定、考核與激勵手段方面更多地考慮學者的需求，以期在官僚與學術邏輯之間尋求平衡。

Keywords: 委託-代理, 表現為本, 高校評價體系, 高校聘用制度改革, 學者感知

A Review of Challenges in Taught Postgraduate Education

8 Dec 2021 I 09:50-10:10

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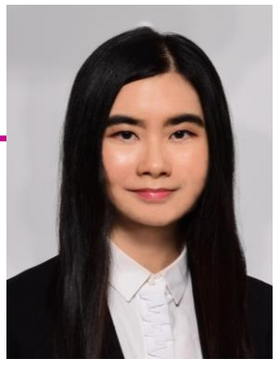
Abstract
Because of academic inflation, the number of taught postgraduate students has grown dramatically in the last decade. Despite the big population size of this group of students, they are the “overlooked cohort”; as many educators hold the view that special attention or help from the higher education system are not required for postgraduate students, who have all at least been awarded with a bachelor’s degree previously. However, some begin to suspect that taught postgraduate programs are not designed well enough to equip students for the demanding and fast-changing world. In order to identify the challenges that postgraduate students encountered, a systematic review was conducted to examine the challenges that taught postgraduate students are facing in Hong Kong and China. This study aims to provide a general overview of the current situation, so that better design and support can be given to taught postgraduate students. This study has only selected peer review articles published in both Chinese and English language in the last decade, using the search term (“taught postgraduate OR master” AND “challenges OR “struggles” AND “academic OR career”). In total, more than 1500 articles were reviewed. After formalizing the inclusion criteria among the researchers, eligible articles were selected and analysed. The key findings of the systematic review include: (1) narrowed employment options because of expertization; (2) unmatched employment expectations; (3) general bias toward postgraduate students. It is recommended that clear career trajectories need to be provided when the student first enrolled in the master program to manage their expectation.

Keywords: Academic Inflation, Student Support, Study Challenges, Systematic Review, Taught Postgraduate

Service-learning Transformation in CUHK Students Amid COVID-19 Pandemic – A Qualitative Study Based on Focus-group



9 Dec 2021 I 09:30-09:50

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Abstract
Service-learning is a pedagogy carefully designed to achieve various educational goals, including creating positive academic, personal, and civic outcomes. The beneficiaries of service learning include both service providers and recipients. Traditionally, service-learning relies heavily on face-to-face contact, which is likely affected by the COVID-19 pandemic. We conducted seven focus-group Zoom interviews with twenty-one Faculty of Medicine and Faculty of Science students from the Chinese University of Hong Kong to understand service-learning transformation amid COVID-19. All students had their service-learning plans changed, in which eight (38.1%) had activities cancelled or postponed. For those who continued, most service-learning activities were changed to virtual mode, such as conducted via phone calls, Zoom meetings, or shooting videos. These changes affected both students and service recipients. The major impact on students' learning outcomes were the reduced chance to practice hands-on technique, such as health screening and other procedures, reduced feedback from subjects leading to difficulty in evaluating service outcomes, and reduced training on soft skills owning to less interaction with service subjects. The major impact on service recipients included inability to reach certain populations, difficult to deliver complicated concepts, and inability to provide concrete and thorough solutions to subjects. Regarding how COVID-19 would affect future service-learning, students expected more health-related service-learning opportunities, particularly on infectious diseases prevention and mental health issues. Majority of students expected that both virtual and face-to-face service modes would be adopted, as they perceived that while face-to-face interaction was essential, their service subjects showed higher acceptance to virtual services than expected.

Keywords: COVID-19, Medical Education, Service-learning

Shifting to Online Assessment: The Diverse Assessment Experience Across Faculties During Lockdown at a Hong Kong University

8 Dec 2021 I 15:40-16:00

Lily Min ZENG
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Abstract
Universities around the globe had to move a big proportion of their teaching and learning activities or entirely online upon the outbreak of the pandemic. In many cases, the shifts had to be conducted in the middle of a semester which seriously disrupted teachers' original teaching plans including assessment, one of the greatest concerns among students. This study investigated: 1) what kind of assessment tasks did the teachers shift to during pandemic? 2) what were the major changes they made? 3) what were the major challenges they encountered? The study collected data at the faculty level first. When such data were not available at the faculty level, surveys containing open-ended questions were sent out to individual programme leaders in those faculties. Faculty level data were received from five faculties. 46 responses were obtained from individual programme leaders from other five faculties. The data were analysed using thematic analysis based on the previous literature on assessment. The study found the online assessment tasks teachers used can be classified along a continuum from closed, timed assessment on individual students for selected-/constructed-responses to open assessment on collaboratively constructed responses completed over a long period of time. The changes teachers made in assessment varied from no change at all, to the procedural adjustment, and to the pedagogical change in the design of the assessment. The key challenges teachers encountered during the lockdown included the need for professional development in assessment design, challenges in implementing assessment, and conducting authentic assessment.

Keywords: COVID-19, Higher Education, Online Assessment, Teaching and Learning

Supporting Student-centered University Engineering Education: Results from the Pilot of a Modular Program Promoting Pedagogical Change

9 Dec 2021 I 09:50-10:10

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Abstract
Scholarship in higher education STEM fields has shown support (including gains in content acquisition, student satisfaction, and promotion of desirable graduate attributes) for a shift from lecture-based pedagogies towards more student-centered approaches. As part of a unique cross-faculty initiative to promote this type of pedagogical change, an established science, mathematics and technology education center associated with a Faculty of Education, in cooperation with a Faculty of Engineering from the same Canadian university, have developed a modular learning program. Each of the 12 modules in the program include self-paced readings, activities, videos, and reflections; an opportunity to apply the learning to courses in progress (workplace learning); and a group discussion of the learning experiences (Community of Practice). Using qualitative program evaluation to assess the feasibility and appropriateness of the module content and delivery, two modules were piloted with six Engineering faculty members (both experienced and new to teaching). Using an interpretive inquiry lens, qualitative thematic analysis of participant documents along with recordings of the Community of Practice meetings, a focus group, and individual interviews with participants, was conducted. Results indicated that Engineering faculty were receptive and interested in improving their teaching practice, were interested in practical guidance as to how to implement evidence-based teaching practices such as understanding their students and problem-based learning, but were concerned about implementing pedagogical change due to large class sizes and time constraints. These findings are presently informing final module development and could be used by others working toward STEM higher education pedagogical change.

Keywords: Community of Practice, Educational Partnerships, Engineering Education, Higher Education, Pedagogical Change

Understanding PhD Student Well-being and Its Influential Drivers

9 Dec 2021 I 11:45-12:05

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Abstract
Student well-being is one of crucial indicators to their mental health, academic performance, and future career aspiration, which will have a significant impact on economic, social, and intellectual costs in the long run. However, doctoral student well-being is currently not well understood in Hong Kong although there is an increasing attention on doctoral well-being in Western societies. Moreover, there is a lack of a comprehensive understanding of the influential contextual drivers (e.g., supervision, resources, research culture, progress and assessment, responsibilities, research skills, professional development, and opportunities) and personal drivers (e.g., age, gender, disability, ethnicity) that underpin it. The current study aimed at understanding PhD students' well-being and examining how the postgraduate research environment predicts the well-being of PhD students from all disciplines across eight government-funded universities in Hong Kong. This presentation will present the preliminary results from 1,890 PhD students on these two aspects. The findings of this project will advance the literature by examining the role of the postgraduate research environment in enabling or inhibiting the well-being of PhD students. The proposed project moves the literature forward by examining the role of the postgraduate research environment in enabling or inhibiting well-being. The focus on environmental factors is solution-focused, because they are more malleable and amenable to policy and intervention efforts. By identifying the critical environmental factors most pertinent for well-being, it also yields actionable knowledge that can be used to craft effective policies and practices for optimizing doctoral well-being.

Keywords: Contextual Factors, Doctoral Student, Hong Kong, Well-being

Using Retrieval Practice to Enhance Learning in a Surgery MOOC

9 Dec 2021 I 12:05-12:25

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Abstract
There is growing interest in using MOOCs (massive open online courses) in global medical education, attributing to the high flexibility and connectivity in this type of learning medium, enabling accessibility of specialized medical knowledge to large groups of learners across the globe without the constraint of time, space and place. While many learners hail the convenience and the benefits of the ubiquitous learning of MOOCs, some educators criticise the open nature of MOOCs pose challenges to effectively engage the cognitive learning of students and there is no obligation of the learners to commit to the learning and many MOOCs lack predefined methods to effectively and systematically help students acquire and retain subject knowledge. Effective learning in a specialised subject i.e. a surgery course involves learners to cope with a vast amount of complex information and to effectively recall useful information. In this investigation, the course team studied the intervention of retrieval learning practice to enhance the learning experience and content mastery and retention on a multidisciplinary Surgery MOOC developed by HKU Department of Surgery during the 2nd course run. The course team conducted ANOVA test to determine the significance of spaced learning activities, interleaved and low-stake quizzes and non-graded assessments on students' learning and retention of information. Pre instruction and post instruction knowledge surveys were administered to compare the learners' pre-existing knowledge and learning results upon course completion. The study results suggested that an effective learning method on a MOOC such as retrieval practice is desirable to enhance the overall learning experience of learners.

Keywords: Surgery MOOC, Retrieval learning practice, MOOC learning design, Spaced learning activities, Interleaved low-stake quizzes

STEM Education and Artificial Intelligence Education

AI Literacy: A Systematic Review of AI Teaching and Learning Practice for Children

8 Dec 2021 I 10:10-10:30

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Abstract
The growth of artificial intelligence (AI) technology as a part of disruptive technology has affected human lives, especially children. The alpha generation children who have been born in and after 2010 are familiar with AI technologies. However, there is a gap between the fast development of AI technologies with the AI literacy skill that the children have. Thus, the enhancement of AI literacy skill and their awareness of the impact of AI technologies needed to be improved. Many schools' AI teaching and learning practices are part of science, technology, engineering, and mathematics (STEM). However, there are limited findings on the definition of AI literacy and the methods to improve the skill. Therefore, this systematic review aims to investigate and summarize all research literature about AI literacy teaching and learning practice in school for children from kindergarten to the primary school level. In this study, the research literature collection is from January 2010 to August 2021 publication. It is targeted at the research articles published or indexed by Scopus, Science Direct, Web of Science, IEEE, EBSCO, ACM Digital Library, and ERIC. In the process of identification, the researchers used the PRISMA method of identification and screening process. The result and discussion of the study will focus on the definition of AI literacy, the challenges in the teaching and learning process, and the method implemented to increase students' learning achievement about and or with AI technologies.

Keywords: AI Literacy, Artificial Intelligence, Children, Learning, Teaching

The Benefits of Drawing and Writing on Students' Performance in STEM Related Subjects

9 Dec 2021 I 15:00-15:20

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Abstract
Writing equations and drawing diagrams is common practice when trying to elucidate abstract and complex concepts in Science and Mathematics. In this talk, describe a meta-analysis to quantify how much writing and drawing integrated into active learning activities improves student performance in STEM-related subjects. Broadly, we searched through Scopus for articles that include keywords related "drawing" or "writing", at the same time with keywords related to "academic performance", in STEM-related subjects. With the keywords and the searching algorithm, we found 29796 articles. We then processed the articles by removing irrelevant articles and those with full article unavailable, resulting in only 374 articles relevant and full articles available. Out of the 374, we were able to code 43 relevant articles which contained student performance scores of control (where no writing or drawing pedagogy was implemented) and experimental groups (where a writing or drawing pedagogy was implemented). We announce in this talk, our effect size found indicating the positive effect of writing and drawing apps to students' performance in STEM related subjects. The result of this meta-analysis suggests that active learning pedagogies supported by apps that can implement writing or drawing functionality (e.g., YoTeach!, Badaboom! or an online whiteboard) might improve student performance in STEM related subjects.

Keywords: Drawing, Meta-analysis, STEM, Student Performance, Writing

The Effectiveness of STEM-related Courses in Improving Early Childhood Preservice Teachers' Self-Efficacy and Attitudes toward STEM Teaching

8 Dec 2021 I 10:50-11:10

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Brad CHAN
Yew Chung College of Early Childhood Education

Abstract
Teachers' attitudes play a more important role than knowledge in teaching early-childhood (EC) STEM. However, EC teachers lack such efficacy in integrating STEM into teaching. The same phenomenon was reported in Hong Kong with only 5.53% kindergarten teachers identified themselves as well-prepared for teaching STEM. Regarding this situation, STEM-related courses were developed in a teacher preparation programme to improve preservice EC teachers' self-efficacy and attitudes toward STEM teaching. Practical elements such as mock teaching, role-play and hands-on experiments were incorporated. This study aims to evaluate the effectiveness of such STEM-related courses in minding the disparity between preservice and in-service EC teachers' self-efficacy and attitudes toward STEM teaching. A questionnaire with items modified from Teacher Self-efficacy Scale and Early Childhood Teachers' Attitudes toward Science Teaching Scale was employed. Data were collected from 87 random in-service teachers and 299 preservice teachers. 113 of the preservice teachers have attended at least one STEM-related courses, and the remaining have never received any STEM-teaching training. Preliminary results showed that there are no significant differences between in-service and preservice teachers' efficacy. However, regarding attitudes, there are significant differences between new students and the other groups, but no differences between trained preservice teachers and in-service teachers. It suggests that STEM training significantly improves preservice teachers' attitudes, particularly toward hands-on experiments, and hence closes the gap between preservice and in-service teachers' attitudes.

Keywords: Early Childhood Education, Preservice Teachers, STEM

An Ethnographic Study on Adopting VR Development to Train Students' 21st Century Skill

10 Dec 2021 I 11:45-12:05

Tobby Shiu Tao KAN
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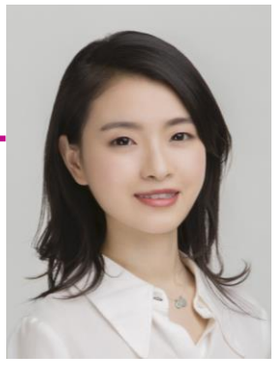
Abstract
In the 21st century, with the help of powerful computers, Virtual Reality (VR) is widely adopted into education to generate a 3D simulated world and allow learners to experience something that are hardly replicated in reality. There are lots of studies focusing on the way to adopt VR in education. Here, I am not going to work in this area and study how VR can be used to enhance certain subjects' learning experience and efficiency. Instead, this paper intends to explore the relationship between learning to develop VR applications and personal development in the 21st century skill. As an umbrella term, the 21st century skill includes a set of skills that are believed to be essential for a work-ready graduate, such as problem-solving skills, IT literacy, and communication skills. It is believed that equipping students with these skills in institutes can make them be competitive and fit the expectation of the job market. As an ethnographic study on teaching university students from different majors to develop their own VR applications in industry-standard software, Unreal Engine, we are going to explore the linkage between learning to making VR and 21st century skill. Qualitative feedbacks (from questionnaires) and detailed discussion (focus group) are primary sources for this study. As the result, it shows that through learning to develop VR applications, university students can equip a certain type of 21st century skills, such as problem-solving and critical thinking.

Keywords: 21st Century Skill, Ethnography, STEAM Education, Tertiary Education, Virtual Reality

Exploring the Impacts of Problem-based Learning Integrated STEM Lessons on the Engagement of Student with Learning Needs



8 Dec 2021 I 11:10-11:30

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Abstract
Science, Technology, Engineering, and Mathematics (STEM) education is important for students in becoming STEM literates. Problem-based learning (PBL) facilitates students to solve real-world problems through involving them actively in the learning process. However, the effects of PBL on students who have learning needs in STEM education are not clear. This study aims to investigate whether PBL integrated STEM lessons can increase the engagement of students who under-perform in STEM learning. Mixed methods approach is adopted to study grade 6 students at a primary school. Data sources include student engagement questionnaires administered prior to and after a series of PBL integrated STEM lessons, field notes of classroom observations, audio recordings of interactions of student groups, and semi-structured interviews with the students and teacher. Paired t-test results indicate a significant difference in students' cognitive engagement and a marginally significant difference in behavioural engagement. Based on the reports of the students and teacher, this study shows how PBL integrated STEM approach can positively affect cognitive and behavioural engagement of student with learning needs. It would promote their interests in STEM learning. Implications for future research on PBL, and its practice in elementary STEM education, are also proposed.

Keywords: Elementary Education, Problem-based Learning, STEM Education, Student Engagement, Under-performing Students

Focus on Problem-solving: Tracking the Development of Novice Programmers in Constructionism

8 Dec 2021 I 16:30-16:50

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Abstract
What are the viable pathways for novice to overcome the hurdles in learning programming? Prior studies have explored different pedagogies for learning programming. However, the findings are mixed, including accounts of unsuccessful attempts to bring programming to schools. Understanding the learning trajectory of novice programmers is a gap to be explored in facilitating effective learning designs. Thirty-eight middle school students from technology-deprived schools participated in a constructionist-enabled intervention. The Friedman test of repeated measures and Spearman's rank correlation were used to evaluate trends in the students' ability to use programming concepts to solve problems. The results showed that the students' programming ability rose sharply from the first lesson, remained stable throughout the intervention, and were not impaired by either the syntax or the semantics of the programming language. However, the features of a program were inconclusive determinants of the students' programming ability. The irregular patterns of programming concepts exhibited within and between the students' programming tasks suggest focusing on instructional strategies that encourage project-based problem-solving instead of learning isolated programming concepts. A constructionist model of learning programming and the associated challenges instructors may encounter in their practice are highlighted.

Keywords: Computational Thinking, Constructionism, Problem-solving, Programming

Fostering Financial Literacy by Backtesting of Investment Strategies—The Development and Evaluation of an Authentic, Self-directed Learning Platform

8 Dec 2021 I 10:30-10:50

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Abstract
In today's finance and management education, students' abilities and readiness to undertake self-directed learning and lifelong learning are crucial because they will need to tackle novel, unforeseen problems when they enter the industry. However, there are barriers to students' development of self-regulated learning, especially in the area of investment strategy formulation. It is very challenging to provide students with an authentic learning environment in classroom settings for them to test their investment strategies. Using an interdisciplinary approach from business, education, and computer science, we close this gap and provide undergraduate students with research opportunities to explore and develop their own investment strategies. In this setting, students can enhance their financial literacy and practice ethical investing. To this end, the Backtester as a technology-enhanced teaching platform developed by the project team provides immediate feedback to students on their self-developed strategies, thus enabling them to reflect and improve iteratively. Moreover, reflective journals, surveys, and empirical data were collected which informed not only ways to improve students' investment strategies, but also the Backtester teaching platform itself. A first version of the Backtester teaching platform has been developed and is currently already used for teaching and learning at HKU Business School, with documentation available at https://clojure-finance.github.io/clojure-backtesting-website. Students are evaluated based on the strategies backtested. This project focuses on applying the Backtester teaching platform to enhance students' financial literacy, self-regulated and lifelong learning capacities, fostering undergraduate research and collaborative learning, and improving the functionality and usability of the platform.

Keywords: Ethical Investing, Financial Literacy, Self-regulated Learning, Undergraduate Research

Gamification and Problem-based Learning for AI- and Blockchain Education in Secondary and Tertiary Education Settings

8 Dec 2021 I 16:10-16:30

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Vitrierat NG
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Abstract
The core mission of STEM education is to empower students' mastery of knowledge in Science, Technology, Engineering and Mathematics in an interdisciplinary and applied fashion. While STEM being recognized as an important element in curriculum across education settings, pedagogical approaches that would foster creativity, enable robust feedback and upkeep student's engagement are pivotal to its implementation. There's a dire need on pedagogical research for effective STEM teaching and learning. In AY 2020/21, lecturers from Technological and Higher Education Institute of Hong Kong (THEi) and IT professionals from Hong Kong Blockchain Society have developed and deployed an AI- and Blockchain Education for the General Education curriculum in THEi, and two aided and direct-subsidized secondary schools. Gamification approach, with a varying degree of competitive/cooperative game setting were used, e.g. games to enable students' learning on complicated concept such as blockchain encryption. Role play was used to provide real-world scenarios for students to learn, e.g. role playing on the holder, issuer and verifier of verifiable health credentials (e.g. COVID-19-positive track and trace). Problem-based learning (PBL) was adopted as a teaching method, as students are required to propose and present their enterprise blockchain and AI solution to a contemporary, industrial problem. In this study, we will present our findings on students' evaluations of effectiveness of the STEM education in feedback questionnaires and focus group interviews for AI- and Blockchain education in secondary and tertiary education settings, and critical reflections on nurturing students with a STEM mindset with a scaffolding of fundamental knowledge and application.

Keywords: AI Education, Blockchain Education, Gamification, Problem-based Learning, Role Play

How COVID 19 is Impacting Chinese Students' Engagement with Science

8 Dec 2021 I 16:50-17:10

Ye CAO
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Abstract
The impact of COVID-19 on education is now a key concern of researchers around the world. The discipline of science education has experienced both opportunities and challenges. On the one hand, the pandemic has prompted public engagement with science content knowledge related to biology, chemistry and the environment, whilst the profile of science-related careers have undoubtedly increased. On the other hand, lockdowns and the difficulties of online schooling have adversely impacted learning and content coverage. These effects are suspected to be common across the world, but what are the particular impacts in China? Before the pandemic, the Programme for International Student Assessment (PISA) found that Chinese 15-year-olds had relatively low aspirations to work in science-related careers. To what extent has the pandemic affected the engagement of Chinese youth? Using a theoretical lens based on the concept of science capital, which is developed from Bourdieusian scholarship, and has been widely used in investigating student's science-related participation, attitude and engagement, this paper presents both quantitative and qualitative data to share the perspectives from students, parents and teachers on the impact of the pandemic on young people's science engagement. Over 1000 questionnaires and 22 interviews were collected from 15-year-old students at 4 schools. Findings suggest that Chinese students have experienced greater behavioural engagement and affective engagement with science during the COVID-19 pandemic. Meanwhile teachers express concern on misleading information from social medias. This paper concludes by highlighting the implications of findings for both policymakers and educators in China and beyond.

Keywords: COVID 19, Mixed-method Research, Science Capital, Science Engagement, STEM Education

Incorporating Data Science Education in Medical Curricula: What and How?

8 Dec 2021 I 15:40-16:00

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Abstract
Data science education is increasingly popular in medical education literature. While various scholars have agreed that incorporating such skills into the standard curriculum is necessary, there is little consensus within literature about essential topics and efficient teaching approaches. 102,976 articles have been identified on PubMed, Academic Search Complete and ERIC with a combination of search terms. After removing duplicates and considering inclusion criteria, 36 articles remained, comprising 33 opinion essays and 3 original research studies. Our review of these studies suggests that core data science skills suitable for the medical curriculum can be broadly categorized into seven areas: data processing, coding, computational thinking, data analysis, interpretation of results, effective communication, and knowledge of ethical, social and legal issues. However, known disagreements on the depth of knowledge required for each skill prevails. These studies suggest that computational thinking should be developed by interdisciplinary, inquiry-based learning for students of different academic disciplines to solve problems collaboratively. Despite little quantitative literature on their respective effectiveness, teaching sessions were positively received by both students and hospital staff, who gained ability and confidence in these topics. Hence, these approaches are worth considering when introducing data science to the curriculum. Our study reveals a major lack of systematic empirical study on which specific topics of data science skills should be incorporated into a medical curriculum and suitable methods to deliver such content. Further studies in this area are necessary.

Keywords: Artificial Intelligence, Curriculum Development, Data Science, Medical Education

Instructional Model for STEM Game and Robotic Creations with Design Thinking and Computational Thinking

8 Dec 2021 I 14:00-14:20

Hsin-Yin HUANG
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Ju-Ling SHIH
National Central University, Taiwan

Abstract
This study introduces an interdisciplinary robotic creation game <Frontier Guards> with a complete semester-based course to teach students assembling their robotics using the concept of design thinking as well as computational thinking. A room-size map was used as the game scenario depicting the aboriginal living areas in Taiwan with terrains and obstacles on the roads to relive a short piece of Tayal history. Students were assigned to role-play the two parties of frontier guards. In the course, students first learn about the related history, assess the confrontational sitution, design and learn about robotic, and iterate after sessions of games. Two groups of students design defensive fortifications and fighting vehicles that can be remotely controlled using block programming to attack, defense, and snatch the opponent's facilities and resources to win the game. In the mechanical development process, students work with teachers' scaffolds. In the simulated historical game scenario, students discussed in groups to employ diplomatic strategies to compete with other groups, to endure crises, and obtain resources from opponents. Discussions and reflections about the creation process and the strategic decisions in the confrontational scenarios are guided to increase students historical thinking and technological literacy. A variety of instructional models integrating design thinking and computational thinking are suggested with pedagogical propositions.

Keywords: Computational Thinking, Design Thinking, Game, Robotics, STEM

Integrating STEM Education: A Case Study of Mathematics Classrooms in a Primary School in Macao

10 Dec 2021 I 12:05-12:25

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Tony LI
Colégio Diocesano de São José, Macao SAR

Janice AO
Colégio Diocesano de São José, Macao SAR

Abstract
This article presents an overview of a STEM project implemented in a primary school in Macao. The building rockets competition was conducted. Pedagogical consideration in the project was analysed based on a conceptual framework for integrated STEM education. The design, implementation and evaluation of the project were depicted. A modified analytical tool, integrated STEM education framework in practice (iSTEMiP), was developed to examine the project. The project included a class of 29 grade four students participating in a two-day STEM event for constructing paper rockets. The theme of the project covered space exploration combining with a real world problem that provided manageable challenges to the students. The design of the project focused on providing the students with hands-on experience integrating mathematics, engineering and science knowledge within the same theme. The students formed groups of four or five and were aided by a teacher through instructional scaffolding while the students constructed their own designed rockets steps by steps. It included design stage for the rockets, group sharing activity, and launch of the rockets. The design and implementation of the project were analysed by iSTEMiP. In addition, students' learning trajectory in the project was studied. The concepts of angles and projectiles were prominently shown from the work done by the students. The study found most of the participated students expressed positive feedback that it enhanced students' interests in learning mathematics and science through STEM learning activity. Further projects could be considered and designed in a frame grounded on key ideas proposed by iSTEMiP

Is Computational Thinking Associated with Sequencing Ability and Self-Regulation among Chinese Kindergarten Children? A Cross-Sectional Study

8 Dec 2021 I 14:40-15:00

Weipeng YANG
The Education University of Hong Kong

Hongyu GAO
Capital Normal University

Abstract
Computational thinking (CT) as a key goal of computing education has drawn increasing attention in early childhood education. However, there is a scarcity of evidence on whether CT in early childhood is related to children's cognitive development for school readiness. The present study investigated whether computational thinking is associated with sequencing ability and self-regulation among 101 Chinese kindergarten children (n_{girl} = 52 and n_{boy} = 49; M_{age} = 5.25, SD_{age} = 0.73). Sequencing and self-regulation (working memory, mental flexibility, and inhibitory control) are the two key cognitive abilities that are cross-domain and foundational for school readiness. We conducted a cross-sectional study with three valid and reliable direct assessment tools for measuring young children's various abilities. Results of hierarchical regression analyses demonstrated that computational thinking positively predicted sequencing ability (β = 0.27, p = 0.01) even after controlling for relevant demographic covariates such as age, gender, and family socioeconomic status (SES). Furthermore, computational thinking positively predicted self-regulation (β = 0.47, p < .001) after controlling for demographic covariates. The results provide the first evidence and important insights for understanding the relationship between computational thinking and other cognitive functions in early childhood, which supports the theoretical claim that computational thinking is based on a wide array of metacognitive strategies that are applicable beyond computing.

Keywords: Cognitive Functions, Computational Thinking, Early Childhood Education, Self-Regulation, Sequencing Ability

Killing Two Birds with One Stone – Applying the Recent Biotechnology of "Environmental DNA" in Teaching Ecological and Biotechnological Concepts in Hong Kong Secondary Schools




10 Dec 2021 I 12:25-12:45

Zhao-Ming WEN
The Education University of Hong Kong

Chi-Chiu CHEANG
The Education University of Hong Kong

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The Education University of Hong Kong

Ling-Ming TSANG
The Chinese University of Hong Kong

Ka-Hou CHU
The Chinese University of Hong Kong

Abstract
This presentation is a report on a trial adoption of a recent biotechnological advance, the application of environmental DNA to assess freshwater faunal biodiversity, in four-session biology modules for local secondary schools. The educational modules, principally applying field-based pedagogy, are STEM education project across the fields, ecology and biotechnology. There were 36 students joined the modules. The modules consist of two lectures on the freshwater stream ecosystem in Hong Kong and the biotechnology of polymerase chain reaction and gel electrophoresis, one field visit to a local stream in the catchment area of a local reservoir and one laboratory experiment on extraction of eDNA and amplification of genetic markers, indicating if the collection of eDNA is successful. Semi-structured interviews were conducted for 5 pre-service teachers who commenced the modules. All of them agreed that the module is an excellent example of an experiential learning modules, which is interdisciplinary in nature. The students enjoyed doing experiment and was motivated to further acquire knowledge. The suggested improvement included the extension of lab period, simplifying the course content and creating room for student to innovate. The experience gained in this trial would shed light on the applicability and feasibility to adopt the most recent scientific and technological developments in teaching relevant scientific concepts at the secondary education level.

Keywords: Biodiversity, Biotechnology, Field-based Pedagogy, Freshwater Ecology, STEM Education

Learning STEM in Technology Enhanced Learning Environment: Opportunities and Challenges

8 Dec 2021 I 15:20-15:40

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The Education University of Hong Kong

Yau Yuen YEUNG
The Education University of Hong Kong

Abstract
The bringing of four classic disciplines (Science, Technology, Engineering and Mathematics) as STEM in education has a higher value than delivering each discipline separately to the learners. This has drawn the attention of all in STEM education. Technology implies applications developed from scientific knowledge for amplifying human capabilities; and as to the definition many of the technology introduced in education were found supportive to meet learners' expectations. Technology Enhanced Learning Environment (TELE) is more than just a medium, students interact and receive response from the application/technology in TELE. This review may convince one that TELE improves outcome for interdisciplinary STEM education. But we alarm not to jump to such conclusion, the second section in the paper makes a critical review of literatures that explained the experiment/use of TELE in STEM learning. TELE supported conditions for quality performance for many, still there are numerous issues to resolve/research as STEM educator's responsibility. Technology: gets obsolete, expensive, lack humanistic/life skill training, increases dependency, and nurture techno-centrism. Learners: vary on their access limited by resource and/or skill, get easily distracted, differ on their comfort levels, and experience widening learning gaps with peers depending on the educational technology in use. Teachers: find added burden of management, had to increase their professional investments to be in pace with technology, face challenges in handling diverse learners, and are failing to integrate technology, pedagogy, and STEM content knowledge to meet the curriculum objectives, etc. are some to mention here. STEM educators need to focus on these issues.

Keywords: Learners, Pedagogy, STEM Education, TELE

National Guideline for STEAM Education: A Participatory Action Research on School Gardening

8 Dec 2021 I 15:20-15:40

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Abstract
In the year 2017, the Government of Nepal (GoN) launched *Green School Guideline* with the notion of *One Garden, One School*, whereas in 2020, curriculum development center under GoN started implementing integrated teaching and learning through the Integrated Curriculum (IC) in all grade levels. This paper examines how we can develop integrated teaching and learning using a multidisciplinary approach of Science, Technology, Engineering, Arts and Mathematics (STEAM) education aligned within *Green School guideline* and support developing national guidelines for STEAM education. With the support from Kathmandu University School of Education, this Participatory Action Research (PAR) was carried out among sixth to ninth grade students, teachers and parents for one academic year in one of the community schools in a rural part of eastern Nepal. Using urine from the eco-san as the major component of fertigation along with biochar and organic compost school teachers, students and parents planted vegetables along with fruits. With experiential learning as a basic principle, the notion of "Living School" has been architected considering "school garden as a pedagogical resource". Prolonged involvement in the school garden activities enriched local wisdom, indigenous knowledge, respect for work and positive attitude thereby promoting culture of hands-on activity. The findings were made on basis of qualitative data collected through participants' observation, focus group discussion; in-depth interview and informal sharing while students, teachers and parents engage collectively and design STEAM projects in the school garden. It is found that the meaningful engagement of students, the active participation of teachers in designing and implementing STEAM projects and above all, the unparalleled support and coordination from the parents clearly assured that the integrated learning with STEAM based pedagogical approaches can be best practiced within the *Green School Guideline* or school gardening and could be a potent recourse in contextualizing our curricula.

Keywords: Eco-san, Integrated Curriculum, Participatory Action Research, School Gardening, STEAM Education

A Oceanic Scientific Inquiry Game with Robotic Positioning System and Automatic Response Function

8 Dec 2021 I 09:30-09:50

Ju-Ling SHIH
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Hsin-Yin HUANG
National University of Tainan

Abstract
This study introduces an interdisciplinary robotic game <Source of Sea> designed to let students role-play in the maritime scenario where in students write block programming to control robotic ships to voyage on a room-size map. Students were distriubuted into groups representing different countries driving the robotic survey ships to probe for natural resources under the sea. We developed a robotic positioning system with automatic response function which can detect the robotic ships' locations on the map and send corresponding resource information to the users via mobile devices allowing the users to use the oceanic data to induce inferences of oceanic conditions, including currents, mines, fishes, obstacles, or dangers. In this STEM-oriented game-based learning activity, students learn about oceanic knowledge, generate scientific models by collecting and interpreting data, and use the information collected to achive the game goals. In the game, students would encounter natural disasters or pirate attacks in the game so they have to cooperate or compete with other groups and apply strategies to achieve game goals. The integration of complex board game with artificial intelligent response system with authentic data has increased the interactions between robots, map, and users. It is a science education activity focused on scientific inquiry and scientific modeling when students conduct ocean mining.

Keywords: Complex Board Game, Interdisciplines, Positioning System, Robotics, Scientific Inquiry

Probing Teacher's Questioning to Promote Knowledge Acquisition in a Failure-based STEM Activity

8 Dec 2021 I 15:00-15:20

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Orieta Hing Yi WONG
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Abstract
STEM education has been widely promoted in Hong Kong. Its effectiveness, however, was lack of assessment. To study the impact of productive failure as a STEM pedagogy and the teachers' role in it, data from four S2 classes were collected from an experimental group (productive failure) and a control group (direct instruction) when conducting a nine-lesson curriculum to make a rocket car for an inter-class competition. The following results were recorded: a) a pre- and posttest on conceptual knowledge; b) the speed of the rocket car; and c) a student survey on teacher's questioning types. Results showed no significant gains in the post-test (t = 0.486; p = 0.630); and b) there was no correlation between the speed of the rocket cars and students' knowledge acquisition. However, PF teachers in general were rated higher on questioning types and frequency; and the semi-finalists (N = 40) showed significantly different perception in teachers' questioning types as compared with the non-finalist (N = 82). Further check of student demographic found that the intake ability of the semifinalists might be confounding factors determining their proactive attitude in the lessons, which in turn affected their perception of teachers' questioning, and contributed to the pedagogy of productive failure. Followed-up study explores the optimal solution for positive gains in conceptual knowledge by a) developing key word search strategy; and b) teachers' questioning types and frequency to extend concept gain across a diversified intake. Types of questioning techniques will be explored, and a modified PF model is recommended.

Keywords: Direct Instruction, Knowledge Construction, Productive Failure, STEM, Teacher's Questioning

Shaping Future Scientists' Ideas About Science: Factors Influencing the NOS Ideas of Research Postgraduate Students

10 Dec 2021 I 09:30-09:50

Jingwen LUO
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Ka Lok CHENG
The University of Hong Kong

Abstract
To be ready for the challenges in their future scientific endeavours, the scientists-in-training need to develop a sophisticated understanding of the nature of the scientific work. Many studies have explored the Nature of Science (NOS) conceptions of students in taught courses and practising scientists. However, less attention has been paid to the research postgraduate students in scientific disciplines (Sci-RPG), particularly the role of formative laboratory experiences. The current study compares the formation of NOS conceptions of Sci-RPG in two mainland China sites (Beijing and Shanghai) with that in Hong Kong. Semi-structured interviews of 20 Sci-RPG (10 in Hong Kong and 10 in mainland China) who engaged in laboratory-based disciplines were conducted to address two research questions: (1) What are the prevailing NOS conceptions of the Sci-RPG in mainland China sites and those in Hong Kong? (2) What are the impacts of laboratory research experience on the development of NOS conceptions of Sci-RPG? Through iterative coding, memoing, and theme identification, both macro-level sociocultural context and micro-level laboratory atmospheres were found to be influential on Sci-RPG's conception of scientific enterprise-society interactions. In particular, Sci-RPG in mainland China were more aware of the role of social and political factors on the choice of the foci of research and the intensity of inter-research group competition. The current study provides meaningful input to the re-design of Sci-RPG programmes that facilitates the development of sophisticated ideas about science, which serve to guide the training of future scientists in our world of ever-accelerating changes.

Keywords: Higher Education, NOS, Postgraduate Science Education

Smart C3-based Learning Platform: Applying Conceptual and Procedural Approaches and the Three Worlds of Mathematics

8 Dec 2021 I 14:20-14:40

Jeff Chak Fu WONG
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Peiqin LI
The Chinese University of Hong Kong

Abstract
The purpose of this study is to investigate the applications and possibilities of an online communication, cooperation and competition (C3)-based learning platform that provides a recommendation mechanism using artificial intelligence in the first year calculus and pre-calculus courses. Through solving different types of problems in a real time mode, students can learn from each other, exchange ideas through the chat box and discuss the problems through Zoom. A series of different problem types were designed using conceptual and procedural learning approaches and Tall's three-world model. In this work, we presented various worked examples from calculus and pre-calculus that were devised to encourage students to move between the embodied, symbolic and formal worlds of mathematical thinking. By creating opportunities to move between the worlds we will encourage students to engage in multiple modes of thinking through learning by doing which not only results in richer conceptual understanding, but also strengthens their problem-solving skills. Students use graphical animation and illustration by adjusting the sliding bars with different parameters to see how the abstract concept connects with the real-world. This work presents an education strategy based on specialized and modified forms of generalization strategies and mathematical thinking that has been used to support the learning of calculus and pre-calculus for all freshmen. Our observations and findings will be presented and discussed.

Keywords: Artificial intelligence, C3-based Learning Platform, Conceptual and Procedural Learning Approaches, Mathematics and Computer Education, Three-world Model

A Survey of Innovative Tools for Teaching Secondary School STEAM Coding in Hong Kong

8 Dec 2021 I 09:50-10:10

Wai Han CHIU
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Chun Ming LIU
The Hang Seng University of Hong Kong

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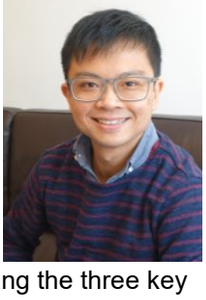
The Hang Seng University of Hong Kong

Abstract
Coding enables students to develop logical reasoning and problem-solving skills. Coding via STEAM education has been vigorously promoted in Hong Kong and many other countries. Nowadays, there are a lot of innovative tools with diverse characteristics for teaching STEAM coding in the market. However, there exist some challenges for educators. Firstly, teachers may not have sufficient understanding of the tools in favor of selecting the appropriate ones for catering their teaching pedagogies and student capabilities. Secondly, since different tools are designed for different learning outcomes, inappropriate selection of the tools may have negative impacts on the quality of teaching and students' learning progress. This survey paper highlights important features of the STEAM coding tools developed in the recent three years. It offers a classification and comparison of the tools using various performance metrics including usability, extendibility, and functionalities. The objective is to help educators select appropriate tools to effectively achieve specific learning outcomes. In addition, our paper consolidates a list of ready-to-use teaching cases in learning contemporary technologies such as AI, multiplayer games, robotics, and AR/VR. We believe that our work can provide insights for educators to innovate teaching methodologies in benefit to identify and focus on the specific needs of their students, particularly Secondary School.

Keywords: Innovative, Pedagogies, Performance Metrics, STEAM, Technologies

Using Robotics to Integrate Computational Thinking, Artificial Intelligence and Mathematics for STEM Education



10 Dec 2021 I 09:50-10:10

Winnie W M LAM
The Education University of Hong Kong

Dennis Y W LIU
The Hong Kong Polytechnic University

Abstract
Technology-driven application of autonomous robotics has become more popular in STEM education recent years. Students can learn to design, build, and program robots to improve self-optimization, self-configuration, and intelligent support to solve real world problems. In this paper, we are going to present two projects on integrating Computational Thinking (CT), Artificial Intelligence (AI) and Mathematics for interactive project-based learning. CT is one of the fundamental skills in the problem-solving process, and AI technology can fit into the CT framework for Mathematics Education. To cultivate students' interest in integrating the three key elements: CT, AI and Mathematics to facilitate interactive learning, two educational projects were conducted in 2020 and 2021 with the support of departmental teaching grants to develop learning packages for Primary Mathematics. The first project used LEGO Mindstorms EV3 to create a solar-powered car. Students applied mathematical reasoning to the programming blocks and built a car to collect energy from light sources. The second project used M.A.R.K (Make a Robot Kit) with AI controller and machine vision module to design a self-driving car. The concepts of computer vision and deep learning helped the students to understand how CT, AI and Mathematics were integrated to solve practical problems. In these two projects, positive feedback was received from 40 undergraduate students. In the next stage, we planned to integrate the AI module of SenseStorm with LEGO Mindstorms to utilize the depth image classification to develop learning packages for Secondary Mathematics Curriculum.

Keywords: Artificial Intelligence, Computational Thinking, Mathematics Education, Robotics, STEM

A Pedagogical Practice in Teaching Scratch Programming in Grade 6 for Computational Thinking Development: Developing a Prime Number & Factor App

9 Dec 2021 I 09:30-09:50

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Yuk Chun WONG
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Abstract
本文闡述一個透過以 Scratch 學習數學質數和合成數的實踐例子。27 名小六學生在數學課堂中學習如何編寫一個因數（Factor App）和質數與合成數的應用程式。他們首先試用已完成的程式，藉此加深對程式的理解和引發學習編程的興趣。由於質數和合成數本身並非核心課程，老師在課堂與學生先重溫除式餘數和因數數學概念，以探究方式讓學生自我發現質數和合成數的特性，並從執行程式引證推證。老師透過編程活動中引導思考流程和所需組件，並發展運算思維。此外，老師亦引導學生在編程環境尋找組件及相關流程結構，協助學生編寫應用程式，學生在編寫程式的過程會學習到不同「條件（Conditions）」的程式碼和「變數（Variables）和清單（Lists）」的資料儲存。本教學實踐引證「玩-思考-編程」是有利運算思維教育發展和有助於建構數學概念的課堂學習模式。

Future Classroom and Next Generation Learning

The Application of Gamification on General Education Curriculum: MonsoonSim as a Case Study




10 Dec 2021 I 11:10-11:30

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Abstract
21st-century education emphasises digitalisation, critical thinking, creativity and innovation, communication, leadership, global awareness, and lifelong learning, in which gamification is highly recommended as an interactive and experiential tool for the delivery of the general education curriculum. Previous studies showed that interactive games effectively stimulated students' responses and improved their engagement in both classroom and online teaching. The latter is significant when lessons were delivered via online teaching mode during the COVID-19 pandemics. At Technological and Higher Education Institute of Hong Kong (THEi), the General Education Curriculum entails knowledge base in the areas of creativity, innovation, technology, society, and entrepreneurial mindset to students from the three Faculties, with the employment of interactive and experiential learning approach for both online and offline activities. In particular, an online interactive tool, Monsoon Simulation (MonsoomSIM), has been used as a gamification platform in both core and elective general education modules to teach essential entrepreneurial skills, included but not limited to "Enterprise Resource Planning, ERP", decision making, collaboration, intrapreneurship, and marketing strategy. Concluding remarks and debriefing are critically analysed through data analytics software on qualitative and quantitative information and deliberated with students for further developments. Here, we will examine the effectiveness of gamification on the General Education Curriculum by focusing on this online teaching tool and how instant feedback can stimulate students' performance and enhance student-teacher relationships.

Bringing the Outside World to English Classroom to Motivate Young Students for Learning English

8 Dec 2021 I 09:50-10:10

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Abstract
In terms of learning English, a combination of speaking and writing skill is considered big challenges facing the very young learners whose mother language is not English, especially mountainous and provincial-area students. Moreover, the 11-14-year-old learners feel more difficult due to the pandemic of COVID-19 while they are taking online class. Therefore, some lessons and materials of active learning and teaching from the outside world would be taken place in this paper besides of well-trained teachers in order to motivate the young children since hopeful teachers have played a vital role in inspiring their students to engage in the online classroom, particularly these teachers can tweak their everyday communication so that it inspires rather than frustrates. Only with the help of a caring, hopeful teachers can do children have the luxury to imagine a better future. Motivation is deemed a necessary factor that brings learners a chance to connect to hopeful people, create and sustain excitements about the future, believe in themselves, celebrate every success-small or large, and encourage with specific praise. In this paper, the authors aim to share a personal experience of how to motivate the very young learners to improve English skills by some specific ways thanks to different materials of active learning and teaching together with a hopeful teacher model. Findings of the paper also show a significant reflection by 10 young students together with their 10 parents through face-to-face interviews that might also continuously motivate EFL teachers to teach more effectively in the future.

Keywords: English learning, Hopeful teachers, Inspiration, Motivation, The Young Learners

Comparison of Students' Performances in Algebraic Manipulations Using Eye-tracker: A Mixed Method Study

8 Dec 2021 I 10:10-10:30

Pui San YAP
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Kenny LOW
Republic Polytechnic, Singapore

Abstract
Despite the increased adoption and use of technologies in education to gain insights on how students learn in various disciplines, there is a paucity of studies using eye-tracker to investigate students' cognitive processes in algebraic manipulation. Therefore, this mixed-method study aimed to investigate and compare the problem-solving processes of high and low-performing students in solving algebraic equations. A total of 30 polytechnic students participated in the study. Data were collected using an eye-tracking software to capture students performing a 4-item algebraic equations task followed by one-to-one cue retrospective interviews. Independent sample T-test and thematic analysis were used in data analysis. The results showed that the high performing group outperforms the low performing group as tasks increase in complexity. In less complex tasks, the low performing group performed adequately well by focusing on the given options and guessing the correct answers. In more complex tasks, the high performing group demonstrates a repertoire of strategies and are flexible in approaches solving the problem whereas the low performing group demonstrates limited strategies and are inflexible in their approaches. This study is significant in helping educators gain insights into the opportunities and challenges faced by high and low-performing students in algebraic manipulations, and thereby formulating strategies and interventions to improve pedagogical practices in algebra. Finally, limitations of study, along with future direction for research and implications for practice will be discussed in the paper.

Keywords: Algebraic Equations, Eye-tracker, Mixed-method, Problem-solving Processes

Cross-curricular e-Learning for Geography in the 21st Century

8 Dec 2021 I 10:50-11:10

Hok Him Aaron LIU
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Abstract
Geography is cross-curricular subject which includes both physical and cultural areas to study. Therefore, it is also easily for teachers to adopt latest technologies into their teaching. In a 21st Century Geography room, students can learn through the blended reality which includes Geographical Information System (GIS), mobile learning, AR, VR, 3D printings, etc. to enhance their learning experiences. Geography room evolves into Geo-spatial lab which integrate the real life into the learning environment through technologies. With the aid of the tablets and mobile devices, real-time authentic field date collection can be easily converted into big data for analysis. Students may use the AR and VR technologies to simulate their field environment in the Geo-spatial lab. Spatial data can be transferred in virtual 3D models in the GIS system or even in authentic models through the 3D printers. K-12 students may use the technologies to try out their hypothesis in an AR Sandbox. Furthermore, the big data can be used for cross-curricular learning experience. During the prolonged COVID-19 suspension of school, these technologies provide us a platform to perform virtual fieldtrips. The big data collected from the authentic fieldtrips are easily converted into virtual fieldtrip. Students might use these technologies to continue their learning. The author is going to share his experiences tried in various Hong Kong local schools about the integration of the above technologies.

Keywords: AR Sandbox, Cross-curricular e-Learning, Geo-spatial, GIS, Virtual (VR) Fieldtrip

Digital Exhibition Space - A 3D Virtual Platform to Support Socialised Learning

8 Dec 2021 I 16:50-17:10

Hanyuning LIN
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Mathew PRYOR
The University of Hong Kong

Abstract
The teaching and learning challenges that Higher Education has faced over the last 18 months have highlighted the need for future learning environments to operate fluidly across both in-class and online settings, to take account of possible disruption and to allow students greater autonomy over how and when they learn. They have also emphasized the value of socialised learning environments, as students learn more effectively and are better able to cope with changes if they are within an active community of learners. The Digital Exhibition Space (DES), is a new virtual learning platform within which students learn by working collaboratively to curate and present an exhibition of their coursework. DES has been purposefully designed to support the blended learning process and to work flexibly across classroom and online settings. It enables both teachers and students to visualize individual and whole-class progress, to give progressive feedback, to facilitate synchronous and asynchronous interaction, knowledge exchange, and peer regulation. DES has been applied in several university and secondary school courses in Hong Kong. Three of these are introduced in this presentation to demonstrate the capacity of DES in supporting socialized learning and its great potential for both online, hybrid or blended contexts. Qualitative data was collected from semi-structured interviews with teachers and students, through content analysis, the results indicate that DES has intrinsically motivated students in three perspectives: to learn, to accomplish and to experience.

Keywords: Collaborative Learning, Intrinsic Motivation**,** Online Education, Socialised Learning, Virtual Learning Environment

Explore the Next Generation Mobile Learning Environment for Classical Chinese Vocabulary: A Survey Study of Mobile Apps

8 Dec 2021 I 11:10-11:30

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The University of Hong Kong

Fangzhou JIN
The University of Hong Kong

Abstract
Studies show that mobiles have created a new language learning environment and facilitated language learning. However, because most of the applications developed in those studies are not accessible to the public, the benefits and limits of applications on the market are still unclear, which hinders the improvement for a next generation mobile learning environment. In addition, those studies focused on vocabulary learning in English or modern Chinese learning and rarely investigated the classical Chinese vocabulary apps. This study reviewed the 28 most popular classical Chinese vocabulary learning apps on the market for Chinese speakers through content analysis. The results show that there are four types of these applications: dictionary, game, context, and dictionary&game models. These apps all use one or more learning strategies. Learning phonological or orthographic forms, association, and word listing are the three most common strategies. In particular, learning classical Chinese words in the context as a new strategy has not been demonstrated in previous studies on English or modern Chinese vocabulary apps. Although current classical Chinese vocabulary learning apps applied many learning strategies in designs, they usually lack clear learning goals, opportunities to practice, interaction, and feedback. The next generation mobile-assisted learning environment should not only regard the technology as a direct substitute with no functional change, but also bring functional improvement and significant task redesign, like prompting learners' asynchronous communication, offering game-based activities to facilitate more practice, and giving timely responses to learners.

Keywords: Apps, Classical Chinese Vocabulary, Learning Strategies, Mobile Learning Environment, Next Generation

Gamification of Teaching and Learning to Enhance Students' Learning Experience in a Higher Education Classroom

9 Dec 2021 I 10:10-10:30

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Ngok Cheng CHAN
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Tiffany W Y TANG
The Education University of Hong Kong

Abstract
One common problem in Higher Education concerns about how boring and unmotivating university lectures can be. Mere didactical teaching method often demotivates students from becoming active and engaging learners. This study aims at investigating how gamification can enhance student learning experience through team competition and the use of recognition and rewards as they solve MCQs. The outcome variables include flow, course experience (good teaching, generic skills), and study approach (deep, surface) to be measured pre-and-post. The mediators include curiosity (as a feeling of deprivation or interest) and gamification assessment (motivation, cognitive, social processing). Two sections of the same psychology course taught to either psychology or education undergraduates are randomly assigned to serve as intervention group or control group. In the intervention gamification group, participants will engage in 10 sessions of group-based learning activity in which each team of 4 is to solve 5 MC questions based on a course reading; the gamified elements include (a) a Leaderboard to recognize each team's performance throughout the 10 sessions, (b) 1 Bonus Question offered in some sessions where a leader can spin a wheel to determine points (1 to 5) to be earned if the team's answer is correct, (c) 5 levels of Badgers to be received to recognize effort, (d) 3 tangible rewards of stationeries to be awarded to 3 most-high-scoring teams, and (e) team competition. The control participants will engage in the same group-based learning activity but without the gamified elements. SEM will be conducted to analyze the effect of gamification.

Keywords: Curiosity, Flow, Gamification, Higher Education, Study Approach

An Interactive Inquiry Approach in Nurturing High-order Mathematical Thinking

9 Dec 2021 I 12:05-12:25

Cheuk-Yin AU
The Education University of Hong Kong

Abstract
In this article, an interactive inquiry approach task design using technology is presented for students' learning in a mathematics problem, specifically counting the number of squares passed through by the diagonal in rectangular grids, nurturing the high-order thinking skills by combining the algebraic and geometric contents in the problem. This learning activity integrates the knowledge and applications of the greatest common divisor (GCD), which is the same as the notation of highest common factor (HCF) in the primary curriculum in Hong Kong, with the geometric interpretations of properties of rectangles, squares and diagonals interactively and dynamically by using dynamic geometry software (DGS) such as GeoGebra (http://www.geogebra.org). To achieve students' active inquiry learning, we will use the six steps approach of inquiry learning to design the task as follows: constructing mathematical software by using DGS, student interaction with DGS, students observing and recording, students explaining or proving the patterns, students generalizing their findings into mathematical concepts, students hypothesizing and making conjectures. To enhance cross-curricular implementation of the learning task design, we may also let students involved in the creation of the GeoGebra files. The involvements of students in the creation of the GeoGebra not only train up their computational skills but also the mathematics concepts behind the problem. This approach of learning by doing helps students to construct and consolidate their knowledge in an object-oriented task, internalize their mathematical concept implicitly.

Keywords: Dynamic Geometry Software, High-order Thinking, Inquiry-based Learning, Problem-solving, Reasonings and Proofs

Interactive Writing Activities to Strengthen High School Students in Mountainous and Provincial Area to improve IELTS Academic Writing Skill

10 Dec 2021 I 10:50-11:10

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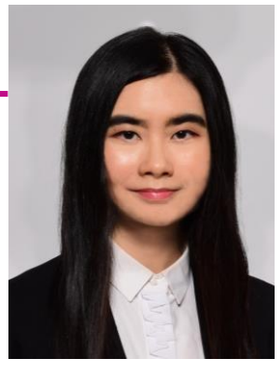
Abstract
In the regard of learning English, particularly IELTS, writing skill is one of challenges facing high school students, especially mountainous and provincial-area students. Moreover, the high school students feel more difficult due to the pandemic of COVID-19 while they are taking online class. It is evident that many previous researches also presented various teaching methods as well as experiences in teaching English writing skill from the basic to advanced level, such as writing as a process or writing as a communicative skill discussed and written, or a combination of reading and writing skill. In this paper, the authors aim to share a personal experience of how to help the young learners improve IELTS academic writing skill through the four specific ways, including translation, reading from English books, reading from English journal articles, and rewriting by imitation. Findings of the paper also show a significant reflection by three groups of high school students who have been taught through this certain method within face-to-face interviews that might continuously motivate EFL teachers to consider their teaching more effectively in the future when the pandemic still spreads out.

Keywords: IELTS Academic Writing, Interactive Writing Activities, Motivation, Mountainous and Remote Area, The Young Learners

Interprofessional Education to Enhance Patient Care – Pedagogy Design to Foster Mutual Learning



9 Dec 2021 I 12:25-12:45

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Abstract
Interprofessional Education (IPE) is essential and should be provided to university students. Nevertheless, IPE is not well-developed in Hong Kong. The course 'Inter-professional Learning for Medication Safety' is a new summer elective course in the Chinese University of Hong Kong. It is a course carefully designed for undergraduate Medicine, Pharmacy, Nursing, and Social Work students. The course content includes asynchronous e-learning sessions and synchronous face-to-face workshop sessions. Students are instructed to view e-learning materials on the common geriatric diseases and the healthcare system in Hong Kong before attending the workshops. Instead of having students attend ward rounds in institutions, selected stroke patients are invited to the classroom. During the workshops, students from different disciplines interview the patients, assess their disease management, identify drug-related problems, and propose treatment plans for the patients. Students should consider the acute, sub-acute, and long-term rehabilitation aspects when developing the care plans. Afterwards, teachers from the Department of Medicine and Therapeutics, the School of Pharmacy, the Nethersole School of Nursing, and the Department of Social Work will give comments and suggestions to students regarding their interview skills and proposed treatment plans. The teachers will also address patients' concerns and demonstrate the appropriate steps to resolve any presenting problems. Upon completion of this course, students are expected to recognize the uniqueness and strength of each profession and understand the current interprofessional collaboration practice. Ultimately, students should be able to exercise their roles in an interprofessional team to address the rapidly changing health service needs.

Keywords: Interprofessional Collaboration, Interprofessional Education, Medical Education, Pedagogy Design

Machine Learning Assisted Planning in Student Development Activities Involvement

8 Dec 2021 I 09:30-09:50

Joseph C H SO
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Abstract
While the value of the co-curricular and extra-curricular activities is widely recognized in higher education and academic studies, particularly in the development of students' generic competencies, helping every student to choose appropriate activities that fit their personality and strength and weakness requires a lot of manpower with expertise that is overwhelming with the resource constraint. Education 4.0 brings the idea of data analytics and artificial intelligence in this field. Tremendous efforts and studies have been put to enhance the interactivity and customization in different aspects of the formal curriculum and subject learning. Nevertheless, the adoption of technological advancement to enhance students' learning through these activities is very limited. In this study, we attempt to explore the feasibility of using machine learning (ML) to facilitate students in selecting student development activities that suit their needs. Data analytics is used to find out the factors affecting students' interests and preferences in activities involvements. With the objectives and intended learning outcomes of each activity, together with a survey when they enter the institution, and the professional advisors' recommendations, the machine learning platform will give suggestions to a student to plan in choosing activities. The suggestions will also be given based on the participation behavior of the past students. Both supervised and unsupervised learning algorithms in ML will be adopted and their effectiveness will be evaluated. The project is expected to promote tailor-made learning experiences for every student.

Keywords: Education 4.0, Generic Competency, Learning Outcomes, Machine Learning, Student Affairs

New School Practice for Protecting Children from Maltreatment Under the "Shadow Pandemic" and "Failure to Protect" Offence

10 Dec 2021 I 11:45-12:05

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Abstract
A five-year-old kindergarten girl who died of maltreatment in 2018 shocked Hong Kong, bringing up the recommendation on the legislation of "Failure to Protect" offence. The unprecedented increase in domestic violence globally since the onset of the COVID-19 pandemic made the United Nations Women describe it "shadow pandemic". The paper aims to explore the new school practice for protecting children from maltreatment under the "shadow pandemic" and "failure to protect" offence from the perspective of teacher education. This paper contributes cutting-edge views on the unprecedented issue. The views of this paper are based on the author's comparison and professional interpretation. Comparison is made between the 2020 newly revised "Protecting Children from Maltreatment – Procedural Guide for Multi-disciplinary Co-operation" and its previous version. Professional interpretation is generated from the author's professional experiences. The implication is that school personnel have not effectively reported these cases mainly because of insufficient knowledge to recognise the signs of abuse. It is recommended to strengthen the Family-School-Community Collaboration training of protecting children from maltreatment.

Keywords: Failure to Protect, Protecting Children from Maltreatment, Shadow Pandemic

Nurturing Future Learners Through Design Thinking

9 Dec 2021 I 11:45-12:05

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The Hong Kong Polytechnic University

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Abstract
According to World Economic Forum, 85% of jobs that will exist in 2030 have not yet been invented, while 65% of children entering primary school today will ultimately work in new career types and functions that do not yet exist. The way we nurture students today will have long-term implications on our society tomorrow and this calls for a transformative change in our school classrooms as a means of responding to an uncertain future. Design thinking (DT) is characterized by an iterative learning process from which learners learn how to create solutions with a diverse solution path and develop an important mindset to respond to 'wicked' problems that advance human development. While DT is widely applied in business settings and higher education, a growing influence on K12 environment has also been observed. This study is situated in a 3-year cross-university collaboration aiming to create a future classroom and foster twenty-first century competencies in secondary school students though co-curricular DT workshops. Adopting a quasi-experimental pretest-posttest design (n = 272) with a control group (n = 289) from 12 participating schools, this study navigated the impact of DT on students' twenty-first century competencies. Initial findings confirm the effectiveness of DT in nurturing twenty-first century competencies and contribute to the wider discussion on nurturing future learners for an increasingly unpredictable future.

Keywords: Design Thinking, Experiential Education, Future Learners, Quantitative Research, Twenty-first Century Competencies

Paper-and-pencil Versus Online Assessment of Student Well-being amid COVID-19: The Measurement Invariance of the Mental Health Continuum-Short Form (MHC-SF)

10 Dec 2021 I 12:05-12:25

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Abstract
The COVID-19 pandemic has led to school closures that shifted student learning and assessment online. Little is known, however, on how self-report assessments perform psychometrically in COVID-related settings, especially in lower middle-income countries. This study tested the measurement invariance of the Mental Health Continuum-Short Form (MHC-SF) on two administration contexts: paper-and-pencil and online. Using data from two student populations from the Philippines (N_{total}=1,310), we evaluated the factor structure of the MHC-SF to assess student well-being and tested its measurement invariance in paper-and-pencil (n=663; collected January 2020) and online test administration (n=647; collected May 2020). Confirmatory factor analysis show that the MHC-SF's three-factor model fit the data better than its one-factor model. The model fit of the three-factor model held through configural and metric invariance for both groups, but the model fit indices decreased beyond the recommended threshold for scalar invariance. The lack of scalar invariance suggests differences in latent means. We found that students who responded online had lower means, specifically for items under social well-being. The MHC-SF is a reliable and a construct valid instrument that can be administered to students through paper-and-pencil and online methods. We discuss important considerations on using either test administration methods during the COVID-19 pandemic, particularly for low resource schools and contexts.

Keywords: Invariance, Online Scale Administration, Paper-and-pen, Philippines, Well-being

Perspectives of Parents with Children Receiving Special Education Support During Distance Education: A Case Study from Hong Kong

10 Dec 2021 I 12:25-12:45

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Ka-Yin Ada TSANG
The Education University of Hong Kong

Abstract
Learning through play and hands-on experience is vital for young learners, especially those with special education needs (SEN) who require constant support. Due to the pandemic, all learning has transitioned to emergency remote learning mode. The regular class suspension has a tremendous impact on special needs children and their parents, and the variations in learning mode affect the routine and support of children's daily learning. This study has three goals. i) to highlight challenges and compare parental views of children with SEN who received and those who did not receive any special educational support before and during the pandemic; ii) to investigate the availability and usefulness of these services in Hong Kong kindergartens during class suspensions; iii) to evaluate these viewpoints and sum up the findings and future directions. The survey data is collected from 74 participants (parents, teachers and leaders from kindergartens) and is triangulated through case studies and 24 semi-structured interviews. The overall results from various stakeholders, including seven parents of children with SEN, reported children with regular support from various organisations via different modes during pandemic has lessened the parental burden in supporting children. Additionally, it worsened the situation and widened the gap between children who were not officially diagnosed and did not receive SEN support and the typically developed children. Results also revealed that parents considered the home-school collaboration is vital during the pandemic, and active communication regarding the support mode and content was essential in supporting children with SEN in the emergency remote learning.

Keywords: Distance Education, Early Childhood Special Education, Emergency Remote Learning, Parental Perspective, Special Educational Needs

Practical Tips on Using the Flipped Classroom to Engage Students in the Post-COVID-19 Era

8 Dec 2021 I 10:30-10:50

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Abstract
The flipped classroom has been widely used as an effective e-learning strategy to facilitate student self-learning, and could be continued in the post-COVID-19 era. We would like to share practical tips on designing and implementing flipped classroom activities. We implemented the flipped classroom module in our Gerontological Nursing course to equip nursing students' fundamental knowledge about dementia. The design of an engaging flipped classroom requires effort from pre-class to in-class activities. The appropriate number, length and content of pre-readings and videos has to be considered to ensure learning outcomes. In our experience, a video duration of 8-10 minutes is approachable while the content should be concrete and not overload students. The quality of the video does matter, and software such as Panopto, Camtasia, Animaker and Powtoon can help users create high-quality recordings. Captions can facilitate understanding of the content. Integrating one or two questions into the video and providing instant feedback enhance student engagement and reflection. Pop-up messages and animation can be used to attract attention. The lecturer should be present in the flipped classroom to ensure familiarity with students in the event of any difficulties in learning. Teaching materials such as lecture notes must be prepared and provided so students can jot down notes and revise the content of the flipped classroom. After a few online sessions, a discussion forum using a case study can test students' knowledge of practical matters. Facing the uncertainty of the pandemic, we need to be well-equipped to implement remote teaching.

Keywords: E-learning, Flipped Classroom, Nursing, Online, Practical Tips

Realising the Potential of Education Technology: A Policy Perspective

9 Dec 2021 I 10:10-10:30

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Our Hong Kong Foundation

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Our Hong Kong Foundation

Tiffany KWONG
Our Hong Kong Foundation

Nicole LAU
Our Hong Kong Foundation

Abstract
As the world moves towards digitisation and automation, education systems around the world have placed greater emphasis on technology-driven learning. However, Hong Kong's education system has not been at the front-line of digitisation. Despite over 20 years of e-learning policy implementation in primary and secondary levels, OECD's latest PISA report states that teachers in Hong Kong are ill-prepared in terms of possessing the necessary skills to integrate technology in education, ranking in 69th place out of 79 countries. Hong Kong students' digital skills performance are also below the international average. This paper discusses and advocates policy changes to better reap the benefits of Education technology (EdTech) to improve education outcomes. EdTech goes beyond covering online learning to enhance the accessibility of education. Other digital applications, such as gamification, learning management systems, adaptive learning software etc., creates more engaging and personalised learning experiences for students, and improves education management and delivery for educators in the classroom, school, and national level. By leveraging the potential of EdTech, this creates a paradigm shift in the classroom environment, ranging from introduction of new pedagogical approaches catering to different students' needs, better assessment methods to measure learning, and greater emphasis of digital and 21st century skills training etc. To ensure a lasting impact of EdTech penetrating the education ecosystem, policies must be holistic, taking into consideration of infrastructure, procurement processes, teacher capacity building, curricula, and cross-sector partnership structures. Existing government policies and fallacies, along with best international practices, will be incorporated into the discussion.

Keywords: Education technology, E-learning, Policy

Redesigning Blended Learning Courses: Perspectives of Interaction and Gamification

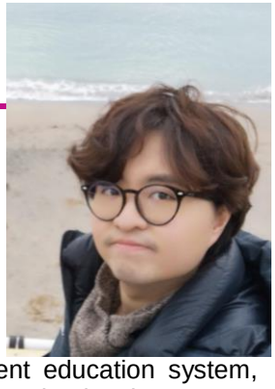
10 Dec 2021 I 10:30-10:50

Pavandeep KATARIA
UOW College HK

Abstract
The unprepared push into the complete digitisation of learning during the COVID-19 pandemic has led educators and researchers alike to make sense, apply and redesign course content. Consequently, pervasive learning spaces that embed asynchronous and synchronous interactions have subsequently, become a required condition of learning. Coupled with new modalities of interactions such as cross-platform engagement with open-source educational software, and uses of Virtual Reality (VR) and/or Augmented Reality (AR) bring to attention the importance of how we conceive current and future interaction design. These vast changes and future conceptualization of interaction possibilities lead current teachers ill-equipped in truly understanding interaction in the first place, and students less self-disciplined and losing attention very quickly. A call for redesigning more engaging interaction is necessary for blended learning to serve as a powerful pedagogical tool. This presentation therefore aims to help educators in understanding interaction in online learning better and advocate for co-design with educators for learner-centred Human Computer Interaction (HCI) and design. Furthermore, gameful thinking as one approach to better understand interaction in course design is presented. How gamification of course content can be made more enjoyable and engaging is also discussed as with future consideration for asynchronous and synchronous interactions in learning. Through this presentation participants will understand interaction design better, and how content maybe built for gamification.

Keywords: Asynchronous, Design, Gamification, Interaction, Learning

Technology in Teaching After the COVID-19 Pandemic: The Visual-Only Video Teaching Strategy



8 Dec 2021 I 16:10-16:30

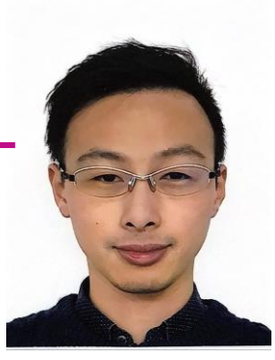
Luis Miguel DOS SANTOS
Woosong University, South Korea

Ching Ting Tany KWEE
University of New South Wales, Australia

Abstract
Technologically-assisted teaching and learning strategies are famous in the current education system, particularly in foreign language classrooms during and potentially after the COVID-19 pandemic. The purpose of this study was to understand and explore the experiences and comments of the Visual-Only Video Teaching Strategy in the online Chinese-as-a-Foreign Language classrooms at a British university during the COVID-19 pandemic. Two research questions guided this study, as the following: 1) How would you describe your online Chinese-as-a-Foreign Language classroom with the instruction of the Visual-Only Video Teaching Strategy during the COVID-19 pandemic? 2) Do you want to have any future courses, regardless of the subject matters, with the Visual-Only Video Teaching Strategy after the COVID-19 pandemic, why or why not? Based on the general inductive approach, 36 Chinese-as-a-Foreign Language university students were invited for the virtual-based and semi-structured interview sessions, and focus group activities. The results indicated that the participants enjoyed the Visual-Only Video Teaching Strategy because of the flexibility, the technologically interactions, and the same level of rigorousness. The contributions of this study may fill up the gaps in technologically-assisted teaching and learning approaches and strategies after the COVID-19 pandemic. University leaders, department heads, lecturers, teachers' trainers, and policymakers may take this study as the blueprint to reform and upgrade the current teaching and learning strategies to meet the needs and expectations of the students and potential employers.

Keywords: Foreign Language Teaching, Technologically-assisted Teaching, Technology in Education, Technology in Teaching, Visual-only Video Teaching Strategy

The Ubiquity of Future Classrooms: Social cum Learning App (StudyBird) – Content Analyses of Students' Thoughts in Focus Group Interviews



9 Dec 2021 I 16:30-16:50

Ki-Kit LAI
Hong Kong University of Science and Technology

Sara LAI-REEVE
Hong Kong University of Science and Technology

Gary CHAN
Hong Kong University of Science and Technology

Shaun WONG
Hong Kong University of Science and Technology

Abstract
The purpose of this paper was to describe our students' (n=8) thoughts and interests of a possible new social and learning app in facilitating their language learning. This collaborative project (Center for Language Education and Department of Computer Science and Engineering) aims to develop, implement and test a social plus language learning mobile platform with Location Sensing Technologies supported by the Department of Computer Science and Engineering at Hong Kong University of Science and Technology. This new social cum language learning mobile app (StudyBird) will promote: 1) greater learner autonomy; 2) more student-student collaborations; and 3) higher flexibility in blended learning, especially the out-of-class tasks, 4) higher levels of student engagement via gamification of learning activities. StudyBird can be understood as the Uber-ride App which connects students together to start their language learning journeys wherever and whenever they want. The focus group interviews were conducted in the first two weeks of July, 2021. A content analysis of the two focus group interviews was carried out. The analysis revealed that students would feel more secured, comfortable, and interested in using a trusted internal university network, like a university app, while making new friends and learning together. However, according to the interviewed students, there were also concerns of potential abuses akin to dating apps on the market. The interview results from the present study could help the researchers to further improve the design and the content of the app, StudyBird, in the incubation periods.

Heritage and Museum Education

Cross of Light over Hong Kong: The Lord Mani's Village House Museum

10 Dec 2021 I 10:10-10:30

John SAGER
The Hong Kong Polytechnic University

Abstract
A prospective, specialty museum devoted to the propagation of the cultural byways of the Religion of Light, The Lord Mani's Village House Museum (LMM) will be situated on a remote access lane in Hong Kong's New Territories. The LMM is dedicated to the recovery of the history of Chinese Manichaeism, the rediscovery of artifacts lost in the historical shuffle of Civil War and Cultural Revolution, respectively, and the fostering of a new generation of scholars to retrieve these histories and relics. This paper explores the manner in which insights shared by the Tourism and Museum Industries (e.g. "slow adventure," "threshold experience," and "storytelling") can be intentionally built into a cultural space to re-create the historical and cultural values of this first world religion lost forever. Despised in China as "vegetarians and demon worshippers," the Manichaeans were the original people of both Image and Book, producing canonical texts elaborately illuminated such that a contemporary Islamic scholar noted that they went to the same lengths for books as Christians went for churches. The only-at-dusk visitation policy of the LMM offers a threshold experience by replicating Manichaean practice via an extended guided tour from parking lot to foyer buffeted by explanations of current meteorological conditions and food offerings ceremonies which allow guests to play the role of Manichaean elect and hearer alike. The activities on offer are meant to be coupled with a visit to the museum proper and online pre- and post-visit tasks for consolidation of affect.

Keywords: Slow Adventure, Storytelling, Threshold experience, Visitor offer

Drawing Disappearance: Ordinary Heritage

9 Dec 2021 I 14:00-14:20

Cheng-Chun Patrick HWANG
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Abstract
Inspired by the disappearing heritage buildings and the mutating urban forms of Hong Kong, this article explores the loss of spatial identity through a series of collective drawing projects co-created by a group of architecture students at the Chinese University of Hong Kong. Taking clues from the handscroll paintings of the Ming dynasty (1368–1644) and the drawing practices of artists and architects focusing on multi-participant drawings (David Gersten, Jill Journeaux, Atelier Bow-wow, Texas Rangers, exquisite corpse). The drawing project aims to make visible that which is invisible, grafting ordinary and contested heritage from the city of Hong Kong. By drawing the past, present, and future, the works not only show Hong Kong's visual appearances but are drawing out its historic traces and anticipated projections. It serves to bear witness to the city's perpetual state of disappearance and the potential to forge a continuum of its spatial identity. With loss looming in the background, the urgency to salvage, reinterpret and co-live with the heritage places has triggered a fundamental question for this collective drawing project: Can architectural drawing act as a site of memory, documentation, and imagination by serving as a device to look into the multi-temporal and multi-spatiality of Hong Kong?

Keywords: Collaborative Drawing, Collective Memories, Design Education, Group Project, Old Buildings

Evaluation of Project-based Learning for Heritage Education: A Mixed Methods Study

9 Dec 2021 I 14:20-14:40

Poh Kiaw YEONG
Republic Polytechnic, Singapore

Joanne Yixin CHEN
National Heritage Board, Singapore

Abstract
Studies had shown that project-based learning (PjBL) developed the affective domain of learning, making it an appropriate pedagogy for heritage education. However, pedagogy decisions related to such affective learning domains remain underdeveloped. Hence, this study aimed to examine the students' PjBL learning experience using statistical and interpretation as the inquiry tasks for heritage education. A mixed methods design was employed, and data were collected from a sample of 60 polytechnic students taking a compulsory, graded PjBL module. The questionnaire focused on students' perceptions of heritage knowledge acquisition, growth in skills and affective outcomes, while the focus group discussions gathered insights to elaborate upon influence factors. The questionnaire results showed that the highest mean rating was heritage knowledge acquisition (M=4.20, SD=0.40), followed by growth in skills (M=4.19, SD=0.59) and affective outcomes (M=3.95, SD=0.64). The qualitative findings revealed evidence that corroborates with the quantitative results. Thematic analysis surfaced three contributing factors: (i) authentic inquiry task, (ii) students' empowerment, and (iii) lecturer's support throughout the iterative learning process. The results suggested that the PjBL approach could promote heritage awareness and appreciation for tertiary students. Three recommendations were proposed as the implications for practice. Limitations of the study and future directions for research on sampling and research design were discussed. This study contributed to the current literature on pedagogical guidance for the design and implementation of PjBL to promote heritage education in higher education.

Keywords: Affective learning, Curricular design, Heritage education, Mixed methods, Project-based learning

Inquiring into the Significance of Life-wide Learning in History and Culture: A Case Study of Xiangshan

9 Dec 2021 I 10:10-10:30

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The Education University of Hong Kong

Sun Pao TING
The University of Hong Kong

Abstract
本研究旨於探討全方位學習概念對學習歷史文化的重要性。「全方位學習」可概括地理解為「時時學」和「處處學」，乃體驗式學習，讓學生走進歷史文化場景，拉近學生與歷史的距離，從而培養對歷史的深層認知與情意。體驗式學習可以緊扣課題，也可作為課題的延伸，更加可以突破課題的局限，拉闊學習視野。現時學生縱使具有良好的建構知識與綜合分析等能力，卻欠缺對事物的情意，以及欣賞文物和歷史人物事跡的能力與態度。香山為古名，包括今日中山、珠海、澳門、廣洲、佛山等地區。香山在 19 世紀中葉至 20 世紀初湧現大量人才：容閎、唐廷樞、徐潤、鄭觀應；政治家唐紹儀；革命家孫中山；買辦：莫仕揚、韋玉；僑商：陳芳、馬應彪等，他們都在近代中國扮演了重要角色。何以於 19 世紀中葉至 20 世紀初這不足百年間在於今日的中山珠海一帶湧現上述所列的人才？人傑是否出自地靈？與當時的政治形勢與社會發展又有何關係？歷史文化的探研往往帶着問題，透過歷朝文獻，加以思考和分析，以解釋這批人才出現的原因；若讓學生走進歷史文化場景，拉近與歷史的距離，自能更有效地探究歷史文化的發展面貌。

Maritime History and Curating Programme for Gifted Secondary School Students

9 Dec 2021 I 14:40-15:00

Cora LEE
Hong Kong Maritime Museum

Abstract
Hong Kong Maritime Museum was funded by the Education Bureau to organise the *Maritime History and Curating Programme* for thirty gifted secondary school students as an off-school advanced learning programme in 2021. This 12-month STEAM-approach museum learning programme was designed to share the knowledge of maritime history and arts, ship building engineering and technology, sea navigation theories and mathematics, etc. The educational values to convey included the caring about cultural heritage, appreciation and respect of different cultures, the sense of belonging to the community, conservation, and willingness to shoulder civic responsibility. All learning activities including lectures, practicums, teamwork, mentorship, site visits, 3D printing workshop, exhibition curating and set up project were well supported and measured. The very positive feedbacks from nearly all returned questionnaires demonstrated students' strong interests and enjoyable exposures to the university level education trainings like academic research and writing skills, mentorship, presentation skills including storytelling techniques, and problem solving skills. For the quality assurance measurement, the scholars, educators, and museum professionals were engaged in the advisory board, supervisory and teaching team. Their regular observations, progress monitoring, quality review meetings, research paper marking and other measurements all proved students' satisfactory achievements of the indicators set for the programme. Through teaching by professionals, mentorship, and peer learning by teamwork, this museum learning programme resulted at further unleashing the potentials, nurturing the knowledge of maritime history and curating outside classroom, and encouraging problem solving and teamwork skills essential for personal growth and all-round development of the gifted students.

Keywords: Gifted Education, Heritage and Museum Education, Hong Kong Maritime Museum, Maritime history and Curating, Off-school advanced learning

Museum Education: How Hong Kong Maritime Museum Translate Collections into Teaching Materials?

10 Dec 2021 I 09:30-09:50

Yui-Yip LAU
The Hong Kong Polytechnic University

Tsz Leung YIP
The Hong Kong Polytechnic University

Abstract
Museum education will be vital in the higher education sector. A number of academic institutions are planning to engage museums to offer professional education with new, innovative learning pedagogy. Given the breadth of museum collections, it is important to be able to understand, appraise and make known about how to connect museums to education. Museum education is an emerging pathway emphasizing on informal, professional, and lifelong education to engage students in learning. This study will comprehensively review the benefits of museum education at the higher education. As such, the Hong Kong Maritime Museum is used as an illustrative case study to explore specific context and practice of museum education that notably impacts the learning experience. (1) What motivational factors for students to participate in Hong Kong Maritime Museum? (2) How higher education institutions can be mobilized from classrooms into museums? (3) Who are involved in this and with what skills, for examples, with focus on sustainable maritime practices and with global environment context? (4) How Hong Kong Maritime Museum Translate Collections into Teaching Materials? To address the mentioned three research questions, this study will examine students' assessment of the effectiveness and their motivations on engaging museum education via a questionnaire survey. Apart from a questionnaire survey, the study will conduct semi-structured and in-depth interviews with various key personnel engaged in Hong Kong Maritime Museum education. Valuable insights and useful guidelines will be given to propose an effective planning and management of museum education for the higher education.

Keywords: Engagement, Expectations, Hong Kong maritime museum, Motivations, Museum education

Museum Experiences as Mediators of Learning for Young Children

10 Dec 2021 I 09:50-10:10

Sylvia CHONG
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Abstract
Museums provide young children with physical and social spaces to explore and interpret their own experiences, customs, beliefs, and values. Children, a key museum visitor group, take part in the educational programmes provided by museums. Many museums provide educational programmes for children. In spite of many educational programmes for children offered by museums, there is little review on children's learning within museums. In particular, little is written on preschool children learning in museums. This paper will present a review of a preschool programme for the Peranakan Museum in Singapore. The Peranakan Museum is a museum that explores the culture of Peranakan communities in Southeast Asia. The term '**Peranakan**' is commonly known as 'local born' or 'local descendants' of region. The Peranakans are a culturally syncretic group dating back to the 17th century. The programme explored the use of narrative and language as tools for learning. Narrative approaches encourage the young children to organise their sense of identity and their understandings of relationships. While language, through story-telling and communication, facilitates the interactions within the museum experience. Promising strategies and activities for scaffolding young children's experience towards enhanced museum learning are also identified. To study the topic, a case study approach is adopted and the children's interactions and conversations during the museum visit are observed and documented. The paper concludes with recommendations for practice as well as future research on educational programmes for children in museums.

Keywords: Case study, Facilitating strategies and activities, Museum education

Teaching History of Medicine to Medical Students at a Medical Museum

9 Dec 2021 I 09:30-09:50

Yi-Jui Harry WU
National Cheng Kung University, Tainan

Ki Sum Samson WONG
The University of Hong Kong

Abstract
This presentation reflects on authors' experience of running the history workshop as part of medical education for half a decade (2015-20). Since 2012, history of medicine has become integral to undergraduate medical education at The University of Hong Kong. As part of a core medical humanities programme, medical students would participate in the workshop entitled "Museum of Medical Sciences: Walking the Path of the Plague" in their first year of study. Co-developed by a medical historian, a pathologist and in partnership with the Hong Kong Museum of Medical Sciences (HKMMS), the 3-hour long workshop takes place at a medical museum. In short, the unique choice of teaching venue has greatly improved the workshop's overall efficacy. Over the years, students appreciated the story-telling approach in leaning about historical events, with the help of physical exhibits, artifacts and rich sensory aids. By turning a history lecture into experiential workshop at history sites, history of medicine can be conveyed in a more engaging, intellectually stimulating, and contextualized way.

Keywords: History of medicine, Listed building, Medical education, Medical humanities, Medical museum

Towards Digitizing Immovable Heritage: Student Experience in Capturing VR-Compatible Spherical Panoramas During COVID-19

9 Dec 2021 I 09:50-10:10

Jeremy Tzi Dong NG
The University of Hong Kong

Xiao HU
The University of Hong Kong

Abstract
Immovable heritage, such as archaeological sites and historic buildings, are under threats of demolition due to modernization and urbanization. Digitization is one of the ways of preserving and promoting the values and significance of these valuable assets of humankind. In recent years, virtual reality (VR) has prevailed in showcasing immovable heritage, for it facilitates presentation of heritage information via sensorial means, and delivers a direct, immersive experience to users. In heritage education, traditional pedagogical practices lead to students' perception of heritage as discipline-bound and mundane. This calls for hands-on activities in authentic contexts that help learners gain awareness and a better understanding about heritage. Grounded on constructionism, learning by making is an effective pedagogy in empowering learners to concretize their ideas for creating digital artefacts (e.g., VR content) that are personally meaningful and helpful for mitigating real-world problems (e.g., the need for heritage preservation). In the context of an undergraduate general education course offered in a Hong Kong university during COVID-19, this study aims to explore students' learning experiences of taking spherical panoramas of immovable heritage as part of the VR content creation process. Spherical panoramas and written reflections were collected from 104 students. Adopting the approach of thematic content analysis, results of iterative coding show 1) the various activities (e.g., recreation, interaction) and 2) challenges (e.g., limited access) during the learning process, and 3) their learning outcomes (e.g., showing appreciation, acquiring technological skills). This study is expected to enhance our understanding about applying constructionist pedagogical activities to heritage education.

Keywords: General education, Heritage education, Immovable heritage, Learning by making, Virtual reality

Positive and Values Education

Development and Initial Validation of an Enhanced Grit Scale: Evidence from a Singapore Sample

10 Dec 2021 I 10:10-10:30

Ashley WU
Republic Polytechnic, Singapore

Abstract
Grit is the demonstration of a continuous effort, perseverance, and sustained interest to achieve long term goals in the face of challenges. Research has shown that both resilience, the ability to bounce back, and growth mindset, the belief that talents can be developed, contribute to grittiness. Hence, this research aims to extend the work of Duckworth et al. (2007)'s Grit Scale by developing and validating an Enhanced Grit Scale for use in institute of higher education. The Enhanced Grit Scale was developed from the review of literature with content domain-specific to grit: Consistency of Interests, Perseverance of Effort, Resiliency and Growth Mindset. Face and content validity were conducted with three experts. Tertiary students (*N* = 1195) were asked to complete the Enhanced Grit Scale online. Item-total correlations demonstrated good discrimination from .39 to .75. Cronbach's alpha scale reliability for all four factors was strong from .76 to .89. Principal component analysis with oblique rotation yield a validated 27-item Enhanced Grit Scale with four factors: Perseverance of Effort, Consistency of Interests, Resiliency and Growth Mindset with eigen value of 9.78, 2.58, 1.70 and 1.47 respectively. Overall the factors contributed to 57.93% of the total variance in the scale. It is with hope that the Enhanced Grit Scale will guide educators to formulate interventions in the learning environments and teaching strategies. Potential use of the Enhanced Grit Scale along with limitations of the research and future directions to take were discussed.

Keywords: Consistency of interests, Grit, Growth mindset, Perseverance of effort, Resiliency

Digital Survival of Chinese Older Adults in Covid-19 Period: Evidence from WeChat

10 Dec 2021 I 09:30-09:50

Qian SHAO
University of Bristol, UK

Abstract
This paper considers the social significance of digital technologies such as WeChat in the Covid-19 period, and how these technologies affect Chinese older adults' lives by exploring the impact digital divide and the younger generation's re-education have on their lived experiences. The Internet and digitization are reshaping all aspects of economic and social life, with an unprecedented speed, and the outbreak of Covid-19 forced Chinese Older Adults to innovate and change the way they conduct their work and everyday life. Economic and social inequality and learning adaptability may keep many older adults out of the digital world, they are becoming one of the most vulnerable groups in the digital divide in the pandemic. In these circumstances, a series of questions about 193 Chinese older adults' WeChat functions mastered (social functions, information functions and payment functions) before and after pandemic is asked through anonymous questionnaire survey and semi-structured interviews. At the same time, questions related to younger generation's re-education of older generation are being asked to get insight into this cohort's online experiences. The findings revealed that comparing with pre-pandemic period, WeChat usage habits of older adults in China have undergone important changes, and payment and social functions have become the main needs. Compared with the technical digital capabilities re-education, the older adults need more in-depth re-education based on real digital content. Renewing the concept of aging, attaching importance to interaction, and accepting aging are more welcomed for the design of elderly-friendly social software and social environment.

Keywords: Digital divide, Digital practice, Generations, Older adults, Re-education

The Effectiveness of Storytelling Approach for Ethics Learning: An Exploratory Study on the Generation Z

10 Dec 2021 I 10:30-10:50

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Ivy CHAN
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Shun Man LAW
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Ken TSANG
The Hong Kong Polytechnic University

Andrew Marcus CHAN
The Hong Kong Polytechnic University

Abstract
Teachers who design effective ethics learning activity may consider inspiring students for purposive discussion and reasoning. Storytelling approach is considered an effective instructional approach that provides opportunities for self-awareness of principles and critical thinking of multi-faced considerations on ethical stances. An exploratory study was conducted to examine the effectiveness and explore important elements of the storytelling approach in ethics learning for tertiary students. With reference to Nonaka's SECI model facilitating organizational knowledge creation, the research team invited students of sub-degree and degree students from diverse programmes to join a storytelling session of ethics where they engaged and co-created their knowledge. In a relaxed environment, students and speakers shared and navigated their experiences while coping with ethical dilemma (Socialization). Then, speakers externalized and explicated abstract ideas into presentation materials (Externalization). Thereafter, students combined and processed the ethical ideas learnt in the sharing. They expanded or reconfigured with their existing ones with a broader understanding of the rationale behind the differences (Combination). Finally, students might experiment with their ethical principles in their daily lives through reflection (Internalization). Participants opted to complete a questionnaire after the storytelling session. The results of the 32 valid responses showed that the storytelling approach was effective and impactful in ethics education. Stories contextualized in daily life and school present high relevance with their prior knowledge thus might connect them more. Moreover, those participants were more engaged in the ethical storytelling process as it provided a platform for them to interact with speakers and the others.

Keywords: Ethics Learning, Generation Z, SECI model, Storytelling

Embodied Experiences of University Students Attending Online Mindfulness Programme: A Qualitative Study

8 Dec 2021 I 16:50-17:10

Ngar-Sze LAU
The Education University of Hong Kong

Abstract
Recent studies have found that university students experience a high rate of stress, depression and anxiety. Various research has shown that mindfulness practices can enhance mental health, well-being, and quality of life of university students as positive and values education in the West. Yet the mind-body experiences of university students joining mindfulness programme has been under studied. Over the global pandemic in 2020-2021, university learning has been restricted to online mode mainly. It would be significant to explore the experiences of the participants and the feasibility of the online mindfulness programme. With qualitative approach, this study aims at examining the embodied experiences of various mindfulness practices including mindful sitting, mindful walking, mindful stretching, sharing lovingkindness, and exploring with difficulties over an online programme in Hong Kong during the pandemic. Based on the analysis of the text of weekly reports and reflective journals of 64 students between 2020 and 2021, this study aims at examining virtues developed and embodied experiences of Hong Kong university students during the pandemic, such as kindness, forgiveness, hope, resilience, and gratitude, etc. Other issues including motivation of joining the programme, preferences of practices, pleasant and unpleasant feelings, obstacles of practices, and reactions towards adversities will also be explored. This study not only can explore how an online mindfulness programme may affect the wellness and resilience of university students over the pandemic, but also facilitate the improvement of learning and teaching with online mode.

Keywords: Embodied experiences, Mindfulness, Online mode, Pandemic, University students

From Perception to Conservation: A Study of Primary School Students' Wildlife Value Orientation in Chinese Communities

10 Dec 2021 I 11:10-11:30

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Ting On Lewis CHEUNG
The Education University of Hong Kong

Kwok Ho TSOI
The Education University of Hong Kong

Chi Chiu CHEANG
The Education University of Hong Kong

Abstract
Marine ecosystem maintains its intrinsic and instrumental values, providing essential ecosystem services to humans. Associating with marine ecosystem closely, human being in the anthropocene become dominating marine environment and threatening marine lives. Being a primitive predator surviving for over 400 million years, shark takes a substantial role in maintaining marine biodiversity. Prior studies revealed that a decrease in the shark population is attributable to the overfishing of sharks, leading to an unpredictable risk of sharks' species extinction. In Chinese communities, shark fins are deemed as a traditional luxury delicacy symbolizing tonic and respect. Due to the high consumption of shark fin, Hong Kong SAR, Taiwan and Mainland China become major shark fins importers. In these societies, negative perceptions towards sharks, however, are portrayed by various factors that hinder shark conservation. Education will serve as a prominent strategy for reflecting a positive relationship between human and sharks in the long run. Understanding the human dimension of species is a considerable precondition for shark conservation. This presentation will report the investigation of wildlife value orientation (WVO), perceptions and attitudes towards sharks collected from over 700 primary school students in Hong Kong, Taiwan and Mainland China between 2019 and 2020. The preliminary result revealed that there are gender-oriented and geographical differences in Chinese communities in terms of domination belief and mutualism belief of WVO, suggesting that an educational approach in both cognitive (scientific) and affective (moralistic) domains for shark conservation and re-thinking of the relationship between sharks and human is urgently needed.

Keywords: Attitudes towards sharks, Environmental and Value Education, Human Dimension of Wildlife, Wildlife Value Orientation

The Impact of Family Cultural Capital on Rural Student – A Self-narrative Review

10 Dec 2021 I 12:25-12:45

Yuqing PENG
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Dongyu LI
Beijing Foreign Studies University

Abstract
Nowadays, class mobility is realized by education. Students from rural areas are having more opportunities in entering elite universities for pursuing their learning. The current study tries to analyze the status of cultural capital possessed by rural families and to explore its impact on the academic development of their children. The study attempts to explain why parents from rural areas with low literacy can cultivate their children to entering elite universities. The study adopts Bourdieu's Cultural Capital Theory to investigate and explain the underlying endogenous power existing in rural student and its mechanism in a self-narrative way. Three main aspects for rural families were found providing children with constant support to be admitted to elite universities: respecting knowledge, obeying principles and belief of getting ahead. Positive educational values were found guiding them into elite universities and in return nurturing their family cultural capital. This piece of research has also provided practical suggestions for rural parents in successfully raising their children. Furthermore, it tries to lessen the stereotypes which considered rural parents with low literacy not being able to raise their children for entering a distinguished institute to pursue high-quality academic learning. Education changes destiny that is not an empty promise.

Keywords: Cultural capital, Educational impact, Rural parents, Self-narrative

Inclusion Education and Services Enhancement for Students with Special Education Needs During COVID-19 Pandemic in Community College

10 Dec 2021 I 11:45-12:05

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Kylie MA
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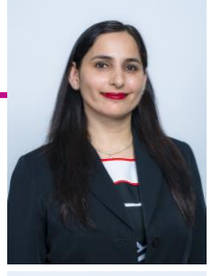
Abstract
Studies have shown that the proportion of students requiring support services for their Special Educational Needs (SEN) in the world is increasing over the past few decades. In Hong Kong, it was reported that there was a 40% increase in number of students with SEN in public sector ordinary schools from school year 12/13 to 16/17. Comprehensive Support Services for Students with Special Educational Needs (CS3SEN) Project was launched on Oct 2019 aiming at providing comprehensive support services to SEN students through customized and individualized supports. In this two-year project, a series of objectives have been achieved, including: to conduct early identification of students with suspected SEN; to provide early intervention and individual support roadmaps to SEN students; to offer services on articulation, career preparation and internship opportunities; to provide further support for teachers to strengthen their knowledge and skills in the related field; to provide training for both teaching and supporting staff to offer appropriate and timely support to SEN students; and to carry out the Caring Leadership Scheme; and to cultivate harmonious campus environment. Activities and services, consisting of support planning and advisories, career preparation workshops, staff training programmes, inclusive promotion campaigns, and caring leaders training program were offered to SEN students and staff concerned. Due to COVID-19, while some activities were put online, most of the planned activities were conducted to achieve the planned objectives.

Keywords: Community College, COVID-19, Inclusion, Special Educational Need, Student Affairs

Polytechnic Students' Perceptions and Practice of Values: A Qualitative Content Analysis



8 Dec 2021 I 16:30-16:50

Shyamli MEHRA
Republic Polytechnic, Singapore

Vincent KERK
Republic Polytechnic, Singapore

Abstract
Values guide human behaviour and the education system endeavours to nurture good values that help learners emulate behaviour that enhances human dignity. To ensure holistic student development, it is essential for educators to understand the factors influencing students' perception and practice of good values. However, there are limited number of studies on post-secondary initiatives on cultivating and sustaining values in students. Hence, this qualitative research attempts to bridge this gap by studying the factors influencing students' perceptions of values in a polytechnic in Singapore, and their effects on value-based actions. In particular, we examine the eight values inherent in the polytechnic's Code of Honour (Respect, Excellence, Passion, Unity, Belief, Leadership, Integrity and Compassion), promoted through various academic, extra-curricular and role modelling initiatives. The data were collected via focus group discussions with 28 first-year students, recruited based on the frequency of value-based actions and demographic criteria. Content analysis shows that students value family, interests and friends most due to emotional and practical reasons. Excellence, passion and belief are personified more by distant figures whereas compassion and unity are personified more by close relations. The study reveals four factors that facilitate practice of values: role models, experiences, opportunities and interests. It also uncovers three factors that deter students from implementing values: environment, results, and personal factors. Insights into what encourages and hinders value-based conduct would assist policy makers in developing targeted Values-in-Action programmes. The paper further discusses the study limitations and implications for future research.

Keywords: Content analysis, Perception, Polytechnic students, Practice, Values education

Positive and Values Education Through General Education Curriculum: Personal, Social and Global Perspectives

10 Dec 2021 I 11:45-12:05

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Technological and Higher Education Institute of Hong Kong

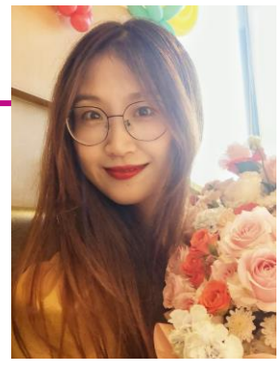
Wai-Kei TSANG
Technological and Higher Education Institute of Hong Kong

Yik-Man TSANG
Hong Kong Baptist University

Abstract
Future ready implies students' capacity and competence to get along with human societies, and to adapt to the ever changing world, which faces diverse and complex challenges to all human kinds and the environment. The changes and challenges cannot be overcome by individuals staying in the comfort zone, but interdisciplinary collaboration between knowledge workers equipped with positive mindset and readiness to share and create. THEi's General Education (GE) Curriculum educates students from a variety of intended professions ranging from engineering, design and health, to sport, management, hospitality and arboriculture. The GE Curriculum should prepare well-equipped all-round future tenants with soft and transferrable skills, for personal development, starting from self-actualisation, creativity and innovation, lifelong learning, and extending to reflection on their own roles in local and global context, based on empathy and sense of social responsibility. Such visions are accomplished by learning and teaching strategies responding to personal, social and global challenges. Our GE Curriculum delivers concepts of design thinking, interdisciplinary collaboration and social innovation to students in accordance with the framework of 21st Century's learners. Last but not least, future readiness entails teachers' passion and initiatives to lifelong learning and continued innovation that shape a role model to next generation teenagers. It is envisaged a win-win situation to teachers and students, leading to the accomplishment of positive and value education in personal, social and global perspectives.

Keywords: Character strengths, Creativity, Empathy, General education, Social responsibility

Positive Emotional Experience of Chinese University Teachers in Teacher-student Interactions



8 Dec 2021 I 14:40-15:00

Wen LEI
The Education University of Hong Kong

Abstract
Positive emotional states reflect positive teacher-student relationships and are beneficial to both teaching and learning. However, positive emotions have not received particular attention in recent university emotion studies, especially from the teachers' perspective. Emotion was described by social functionalists as a means of coordination to solve problems in social relations for people's own interests, as well as a "dynamic process" that adjust the relationship between the individual and the changing social environment. Fredrickson suggests that positive emotions can broaden teachers "thought-action repertoires" and build their "resilience and personal resources". Hence a perspective of social functions was employed to explore positive emotional experience in TSR of university teachers in China, drawing from "broaden-and-build theory". In this study, semi-interviews and classroom observations were conducted to understand teachers' positive emotions in teacher-student interaction, including teachers' responses to positive emotions. Preliminary findings show that teachers' positive emotions include excitement, interest, and love, and mainly originate from students' positive feedback on their teaching. Consistent with the "broaden-and-build theory", the positive feedback is argued to help teachers generate positive emotions, which can help to reduce negative emotions. The study concludes with suggestions as to how university leaders can provide their teachers with much needed positive emotional support.

Keywords: Higher education, Positive emotions, Teacher emotion, Teacher-student interactions

A Preliminary Analysis on What Malaysian Secondary School Teachers Valued in Mathematics Learning?

10 Dec 2021 I 09:50-10:10

Hui Min CHIA
The Education University of Hong Kong

Qiaoping ZHANG
The Education University of Hong Kong

Abstract
Teacher values played a crucial role in shaping the mathematics classroom practices. Values in the mathematics classroom are categorised into mathematical (the mathematics discipline), mathematics educational (the mathematics pedagogy practices), and general educational values (the moral principles). By using convenience sampling, we explored Malaysian secondary school mathematics teachers' values in mathematics learning through an online survey. 41 secondary school mathematics teachers had participated in this study. Analysis from 10 items with continuous dimensions was presented. Data were analysed using One-way ANOVA and the independent t-test. The preliminary analysis showed that Malaysian secondary mathematics teachers valued the attributes of mathematical values such as "objectism", "openness", and "progress" over the respective opposing dimensions "rationalism", "mystery", and "control", respectively. In terms of mathematics educational values, Malaysian secondary mathematics teachers tended to value "process", "hard work", "effort", "application", "ideas and practice", "exploration", and "creating" in mathematics learning. There were no significant differences in terms of teachers' gender and ethnicity. The significant difference was found in terms of different years of teaching experience. Experienced teachers tended to value "hard work", "mystery", and "progress" compared to teachers with lesser years of teaching experience. The results will contribute to the understanding of Malaysian teachers' teaching behaviour in the mathematics classroom and provide insights on values research in the Asian context.

Keywords: Mathematics Classroom practices, Mathematics teacher values, Values in mathematics learning

Promoting Appreciation of the Human Ageing Process: The Experience of a "Campus Ageing Mix Project for University Students" (GIE- CAMPUS)'s Implementation in a Medical School





8 Dec 2021 I 15:20-15:40

Ki Sum Samson WONG
The University of Hong Kong

Abigail WRIGHT
The University of Hong Kong

Ke CHEN
Zhejiang University

Chun Ting Justin CHEUNG
The University of Hong Kong

Yi-Jui Harry WU
National Cheng Kung University

Vivian Weiqun LOU
The University of Hong Kong

Abstract
With the increased exposure to frail and vulnerable older patients coupled with recent advances in anti-ageing and regenerative medicine, medical students may inadvertently develop the tendency to view ageing negatively. Age-related biases in medical students might include seeing ageing as a frustrating process of decline, deterioration, and decay. As part of a Geron-Infusion Education (GIE) initiative at The University of Hong Kong (HKU), the Medical Ethics and Humanities Unit (MEHU) of Li Ka Shing Faculty of Medicine and the Sau Po Centre on Ageing jointly piloted a mandatory workshop entitled "Diversity of Ageing" in Year 4 MBBS curriculum in the academic year 2019-2020. Through photography and guided discussion with "senior champions", clinical-year medical students and senior volunteers jointly explored "what is ageing". Ultimately, it was hoped that the workshop could improve student attitudes toward working with older adults and promote appreciation on the reciprocity of intergenerational exchange. Geron-Infusion Education (GIE) was an initiative jointly developed by The University of Hong Kong under "Campus Ageing Mix Project for University Students" (GIE- CAMPUS), and The Hong Kong Polytechnic University under "Infusion Active Ageing Education" project (GIE- IAAE), initiated and funded by ZeShan Foundation.

Keywords: Age-friendly, Ageing Infusion Education, Intergenerational Exchange, Life Education, Medical Curriculum

Emotions Matter: Impacts on Teachers' Perception, Critical Reflection and Transformative Learning

9 Dec 2021 I 14:20-14:40

Yin-Yung CHIU
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Abstract
Teachers' emotions have become more recognised in the field of education research, but rarely do we observe work conducted based on its close connection with teachers' perception. This paper explores how emotional experiences of teachers affect their perception of lived experiences and perceptive transformation; emotions as determinants to teachers' responses to power; and how emotions act as an accelerator to transformative learning. Using the life stories of three local school teachers in Hong Kong, it sheds light on the importance of emotions and reveals the downplayed personhood of teachers and the effects on teachers' perception and teachers' learning. The role of emotions as antecedents and consequences postulated in Chen's Teacher Emotion Model are integrated with Liu & Hallinger's partial mediation model, with the aim to provide a more holistic view to the interactional nature of power distance orientation, the fluidity of teachers' learning trajectory and the role of emotions in transformative learning. The focus of the study is the effects of teachers' emotional experiences on their reharmonization and reintegration which continues to impact these teaching individuals throughout their learning trajectories and teaching career. This study is a qualitative research with the employment of narration and semi-structured in-depth interview. The conceptual connection between emotions, perception, critical reflection and transformative learning with reference to Jack Mezirow's theory of transformative learning is used as the framework to comprehend how these teachers reintegrates and reframes disjuncture manifested through power distance orientation in their everyday collaboration with the school principal and other school leaders.

Keywords: Perception, Perceptive transformation, Power distance orientation, Teachers' emotions, Transformative learning

Psychometric Validity and Measurement Invariance of Positive Youth Development in the Philippines during the COVID-19 Pandemic

8 Dec 2021 I 15:40-16:00

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Jesus Alfonso D DATU
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Ming Ming CHIU
The Education University of Hong Kong

Randolph C H CHAN
The Education University of Hong Kong

Abstract
This study examined the factor structure and measurement invariance of the competence, confidence, connection, character, and caring (Five Cs) model using the Positive Youth Development (PYD) survey's short version (34 items) and very short version (17 items). We also tested its criterion-related validity with life satisfaction, flourishing, transcendence, perceived societal and school statuses, and COVID-19 anxiety. In the Philippines, 1,116 senior high school students (Mage = 17.61; SDage = .91) from 146 public and private schools completed this survey. The results support the bi-factor model for both short and very short formats, both of which showed strict invariance across gender, SES, and school type. Controlling for the general PYD construct, latent factor correlations showed negative associations between efficacy-related Cs (competence and confidence) and socio-emotional Cs (character and caring). Almost all dimensions of PYD exhibited expected associations with the criterion-related measures, though competence and connection showed weak positive correlations with COVID-19 anxiety. Overall, these results support using the 34-item short scale to measure the general and individual dimensions of adolescent thriving. The low reliability coefficients in the competence and character dimensions of PYD suggest caution in using the 17-item very short scale. These findings suggest implications for well-being research and practice amid the ongoing pandemic crisis.

Keywords: Adolescent well-being, COVID-19 anxiety, Five Cs, Positive youth development, Senior high school students

A Study on the Possibility of Promoting Morally Motivated Acts and Moral Motivation Through Moral Education

9 Dec 2021 I 14:40-15:00

Ji Yoon HAN
Korea University Institute of Educational Research, South Korea

Abstract
This paper aims to examine the importance of moral motivation when moral education is implemented. Moral motivation takes the form of forced morally motivated acts to avoid punishment, or the extrinsic motivation to passively follow moral norms which have not been internalized. Additionally, moral motivation can carry the intrinsic motivation of conducting morally motivated acts spontaneously for one's own honor, or for the internal enjoyment of bestowing good influence on others (or receiving it from them) while conducting morally motivated acts. The moral education for promoting this type of moral motivation, rather than coming from superficial morally motivated acts (to look good in the eyes of others), is more focused on being a voluntary method of not suffering the consequences of immoral behavior. The promotion of this method enables the continuation of morally motivated acts: this is because someone forced into morally motivated acts stops doing them when not being observed by others or receiving some kind of reward. For this reason, moral education can be promoted as a method of having the habit of naturally motivated acts as we gradually become accustomed to them, even if we initially engage in passively motivated acts. And after performing morally motivated acts, it can be promoted as a method of having intrinsic motivation on its own, while sufficiently feeling morally blissful through reflection. It follows that students who enjoy voluntarily internalizing external moral norms and voluntarily practice internal morality consistent with these norms reach a level where they have their way within the limits of the law.

Keywords: Extrinsic motivation, Intrinsic motivation, Moral motivation, Morally motivated acts, SDT, Zhu Xi

Teachers' Conceptions of Humility in Hong Kong: Implications for Teaching and Learning

10 Dec 2021 I 12:05-12:25

Yumjyi Ji YING
The Education University of Hong Kong

Mark Gregory HARRISON
The Education University of Hong Kong

Carla Maria BRIFFETT AKTAS
The Education University of Hong Kong

Liz JACKSON
The Education University of Hong Kong

Abstract
Humility as a virtue has been receiving increasing scholarly attention in the fields of philosophy and psychology (particularly positive psychology). While humility is regarded as important for knowledge production, acquisition, and transmission, philosophical and psychological inquiries indicate that the concept of humility can significantly differ across social arenas and cultural traditions. However, despite its clear educational importance, humility as a moral concept is seldom explored empirically in relation to teaching and learning. This study seeks to extend our cross-cultural understanding of humility and its association with teaching and learning practices in schools. Based on semi-structured interviews with teachers in local and international secondary schools in Hong Kong, we comparatively explore how teachers understand the concept of humility and how their understandings shape their teaching practices in classrooms. This comparative approach can provide a deeper understanding of the differences and similarities between different teachers' understandings of humility as an important moral concept. Furthermore, this study will shed light on how educators' moral concepts are associated with their pedagogical practices. This will provide an alternative lens to reflect on and improve teaching and learning practices, and teacher-student relations in schools.

Keywords: Conception, Hong Kong, Humility, Teacher, Teaching

Teaching Respect and Awareness of Cultural Differences in Undergraduate Curriculum

9 Dec 2021 I 14:00-14:20

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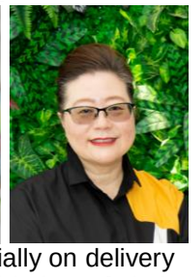
Abstract
This study intends to investigate the attitudes towards acceptance of different cultures and empathetic awareness of undergraduate students (N=27) in a General Education Breadth Course (GEK1004 Civic values, character formation and positive education). The intervention is a combination of about four 3-hour sessions of knowledge and experiential learning activities on understanding ethnic minorities in Hong Kong, which shall be taught by the author in semester 1 of 2021/22. The focus is on fostering students' acceptance of cultural difference and empathetic awareness of ethnic minorities in Hong Kong. It will use both questionnaire and focus group interviews to collect data from the undergraduate students. The findings of the current study will also be compared with a previous study on undergraduate students studying in the same course with the same number and contents of learning and teaching activities. Apart from testing again the previously confirmed hypotheses of students would achieve significantly higher scores on their self-reports of learning about society on accepting cultural differences and demonstrate empathic awareness of having more positive perceptions of the ethnic minorities in Hong Kong, this study would also like to explore how we can make use of online learning methods together with experiential learning activities to help undergraduate students learn about cultural differences and develop empathetic awareness.

Keywords: Cultural difference, Emphatic awareness, Hong Kong, Online learning, Undergraduate curriculum

Turning Crisis into Opportunity: A Case Study of a Primary School Which Has Migrated Positive Education from On-site to Online During the Pandemic



8 Dec 2021 I 14:20-14:40

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Tsz-King King LAM
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Chi-Shing Tiff LUI
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Abstract
The COVID-19 pandemic forced school closures worldwide and classes have to migrate from onsite to online learning. In Hong Kong, the priority of schools was initially on delivery of subject lessons online, with relatively little attention to the social and emotional well-being of their students. This case study examines how a local primary school incorporated positive education into its virtual homerooms, with a focus on fostering positive relationships and positive emotions among its pupils during school closure. Quantitative and qualitative data sources include a questionnaire survey of students, participant observation of online classes, semi-structured interviews of students, teachers and parents, and school documents. The results of this study demonstrate that teachers have moved from overcoming initial difficulties in online learning to building up a rich repertoire of strategies to cater for pupils' well-being. Though most pupils missed the opportunities to meet their peers at school, they found the experience of online homerooms rewarding. Some showed increased engagement during these online sessions when compared with face-to-face ones. Many pupils developed a renewed sense of bonding as they made use of resources at home to share with their peers and teachers. An unforeseen outcome was the involvement of parents and other family members in online homerooms, which fostered close connections with the school. The findings indicate that the forced move to online class building may have been the catalyst to create a new, more effective blended model of positive education and to sustain teachers' professional development in the future.

Keywords: Blended learning, Class building, COVID-19, Positive education

The Value Orientations in Reading Text of the Senior Secondary Chinese Language Curriculum in Hong Kong

9 Dec 2021 I 09:50-10:10

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Chi Hang HO
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Abstract
中國語文科的課程目標著重語文能力的訓練，也強調思想的啟發和品德的培養。因應 2012 年及 2014 年高中新學制的短期及中期檢討結果，中國語文科課程由 2015 年起，在中四級引入十二篇指定文言經典學習材料，有關篇章由 2018 年起，更成為香港中學文憑考試考核材料。指定文言經典學習材料為文質兼美的作品，有豐富的文學、文化內涵，既能鞏固學生語文能力的發展，也可以促進其文化和品德情意等範疇的學習，是語文教學的重要部份。學生通過學習材料，可培養瞭解中華民族在個人、家庭、國家等方面的核心價值，培養個人品德，完善自身修養。本研究採用內容分析法，以「價值取向主題類目量表」對指定篇章進行價值取向分析，以增加中文學習的廣度和深度，探究篇章在學生發展語言及思維的過程中潛移默化地接受價值教育，建立學生個人氣質、內涵、品格、操守，至於關心社會、盱衡世界的可能性，為中國語文科教學與價值教育的拓展方向提供端倪，啟發思考。

Keywords: 中國語文教育，指定文言經典學習材料，價值取向，價值教育

Values Development Through Science Education: Application of Ignatian Pedagogical Paradigm in Science Classrooms

8 Dec 2021 I 15:00-15:20

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Abstract
Students should be developed into future-ready change agents who can translate their deep insights into meaningful actions. Ignatian Pedagogical Paradigm (IPP), with its root in the spiritual practices of Ignatius of Loyola, is frequently deployed to facilitate students' internalization of learning and has been widely studied. However, relatively few efforts have been paid on how IPP could be implemented in the context of content-rich school subjects. The current study contributes to the discussion of subject-based values education by examining the implementation of IPP in the junior science classes of a local secondary school. A teacher's operationalization of IPP in science lessons in a junior secondary class that aims at developing junior secondary students' Nature of Science (NOS) understanding was illustrated. It is of particular interest that the students were provided with the opportunities to translate their NOS understanding into values generally applicable to different spheres of their life through reflection-based interventions comparable to spiritual direction. Students' reflective journals and qualitative interviews were used to understand students' growth. The data were iteratively coded for salient patterns to emerge, which will be preliminarily reported in this paper. The current study distinguishes itself by foregrounding the impact of the developed values on science learning. This study also attempts to de-segregate between spiritual and values education and the more traditional academic subjects. The insights of such interdisciplinary endeavours should provide an impetus for the academic dialogues on values education.

Keywords: Ignatian Pedagogical Paradigm, Science Education, Spiritual Development, Values Development

Values Education: Re-thinking the Role of Co-curricular Activities in Higher Education

8 Dec 2021 I 16:10-16:30

Amy Wai-Sum LEE
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Abstract
A university education is generally seen as a process to cultivate good citizenship, through various approaches such as training in a specific profession, and other related skills and knowledge. In a highly urbanised place such as Hong Kong, the focus is much more towards the vocational training. From the perspective of the institutions, the main curriculum has to make sure that students will be given the necessary professional knowledge and relevant skills to serve a particular profession, or to be able to contribute to a certain sector in society. For students, however, it is increasingly clear that to be equipped with the necessary knowledge and skills to perform in a job is not enough, at least not enough if one's goal is to live a good life. The global and regional situations of the past two years have also alerted us to other aspects that a university education should provide for our young people. Values education very often is expected to be "taken care of" by the General Education component of the curriculum, or somehow achieved through co-curricular activities. This presentation is a reflection on the needs of young people in Hong Kong, and to re-think the kind of co-curricular activities that could be offered or facilitated by universities to fulfil those needs. In particular, some observations from a research project which uses Playback Theatre to help university students to understand themselves and be connected to the community will be shared. It is hoped that a more structured and relevant co-curricular activities programme can come out of this re-thinking.

Keywords: Emotional Well-being, Interpersonal Connection, Playback Theatre, Self-understanding, Values Education

A Detailed Exploration to the Group Counseling-based Method of Vocational Moral Education

10 Dec 2021 I 10:50-11:10

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Abstract
Professional ethics is of great significance to the sustainable development of personal career and society. Since China's reform and opening up, along with economic growth, many professional ethics problems have emerged. However, China's current professional ethics education is still marginal. the professional ethics education method based on the indoctrination method lacks effectiveness and needs to be improved. As a form of psychological counseling in a group situation, group counseling pays more attention to students' inner experience, which contributes to the improvement of professional ethics education methods, and has a guiding significance for innovating professional ethics education methods. This paper adopts an action research method, selected 16 students from a higher vocational school as the research sample, introduces group counseling into professional ethics education to improve the ethics education methods, which is beneficial to the exploration of professional ethics education methods. Our findings are: group counseling can complement shortcomings of traditional indoctrination method to some extent, increase student participation and professional ethics cognition, deepen their experience through professional ethics practice and promote their comprehensive quality through the interaction of groups. In a course of professional moral education through group counseling, teachers should highlight activities' educational and systematic aspects, enhance group interaction to stimulate moral motivation, Teachers should also pay attention to gain self-growth through a learning-by-doing way, strengthen students' experience and reflection to internalize their ethical beliefs, integrate group counseling with other methods to promote the construction of professional ethics.

Keywords: Action Research, Group Counseling, Vocational Moral Education

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