

Contents

| | | |
|-----------|---|----|
| 1. | Message from the President..... | 2 |
| 2. | Message from the Vice President (Academic) and Provost..... | 3 |
| 3. | Vote of Thanks by the Co-Chair of ICLT2020..... | 4 |
| 4. | Organising Committee..... | 5 |
| 5. | Programmes of ICLT2020 | |
| a. | Keynote Speeches..... | 19 |
| b. | Symposia..... | 24 |
| c. | Parallel Sessions | |
| i. | STEM Education..... | 30 |
| ii. | Teacher Education and Development..... | 37 |
| iii. | Interdisciplinary Studies focus on Education for Sustainable Development..... | 47 |
| iv. | Learning and Teaching in the 21st Century..... | 52 |

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 International Conference on Learning and Teaching 2020 (ICLT2020), with the theme of “Learning and Teaching in the 21st Century”.

The education sector is facing different challenges, especially under the threat of the unprecedented COVID-19 pandemic. The ICLT2020 provides a timely platform for academics, researchers, practitioners and professionals in the education sector to come together to share innovative learning and teaching approaches. I am grateful that we are able to have four renowned and forward-looking experts joining the Conference as keynote speakers. They are Professor John FURLONG of University of Oxford, Professor Anne PHELAN of The University of British Columbia, Dr Gillian KIDMAN of Monash University, and Professor KUMANO Yoshisuke of Shizuoka University.

With an aim to provide an environment for our students and faculty members to experience innovative learning and teaching, the University is working on an initiative, known as “The Future Classrooms@EdUHK Project”. My colleagues shall share their experience in physical construction, pedagogical designs and IT applications, and the underlying principles of the Project in one of the Symposiums. There are Symposiums on different topics as well, such as STEM education and teaching development.

The University ranked second in Asia and 16th in the world in education, according to the 2020 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 more outstanding educators and professionals for the development of the region and beyond.

I would like to express my heartfelt thanks to the keynote speakers, other participants and Members of the Organising Committee for their unfailing support and making this meaningful Conference happen. I wish ICLT2020 a great success and all participants a fruitful and rewarding experience at the Conference.

Message from the Vice President (Academic) and Provost

Professor LEE Chi-Kin John

Co-Chair, International Conference on Learning and Teaching 2020
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 2020 (ICLT2020), comprising some inspiring keynote speeches and symposia of different themes will take place on 2-4 December 2020.

In the past year, COVID-19 has brought unexpected changes to the education sector. Given the fluctuating situation, schools and education practitioners have to adapt quickly to different teaching modes. Where there is a will, there is a way. With the common goal of sustaining the quality students' learning, education practitioners have worked together to seek new ways to deliver interactive and engaging online lessons. Against this backdrop, the pandemic situation has actually opened up new opportunities in innovative learning and teaching.

Under the theme of "Learning and Teaching in the 21st Century", ICLT2020 focuses on STEM Education, Teacher Education and Development, Interdisciplinary Studies focus on Education for Sustainable Development, and any topics related to Learning and Teaching in the 21st Century. We are honoured to have four experts – Professor John FURLONG, OBE, Emeritus Professor of Education of University of Oxford in the United Kingdom, Professor Anne PHELAN, Professor and co-Director of the Centre for the Study of Teacher Education of The University of British Columbia in Canada, Dr Gillian KIDMAN, Associate Professor of Monash University in Australia, and Professor KUMANO Yoshisuke, Professor of Science Education of Shizuoka University in Japan – to share with us the latest progress and insights in the said areas.

Apart from the keynote speeches from our experts, we also have six symposia covering topics on the promotion of STEM education, some timely measures on facilitating online teaching, as well as a large-scale project – the Future Classrooms @EdUHK. We hope these symposia can inspire the participants and lead to further innovation and collaborations in the sector.

Finally, I would like to express my appreciation to the guests, colleagues and students supporting ICLT2020. 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 ICLT2020 a success. Thank you.

Vote of Thanks by the Co-Chair of ICLT2020

Professor KONG Siu Cheung

Co-Chair, International Conference on Learning and Teaching 2020
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 2020 (ICLT2020) is launched with the theme “Learning and Teaching in the 21st Century” on 2-4 December 2020. Previously, it was an annual Conference Day among a series of activities in the Learning and Teaching Festival, which aimed at promoting learning and teaching excellence. With the continuous support of the Senior Management, Faculties, Departments, Graduate School, and Academic Support Units and all participants of the previously organised Conference Days, the one-day event has now grown. I would like to thank them for their contribution and unfailing support.

I am grateful for the participation of Professor John FURLONG, Professor Anne PHELAN, Dr Gillian KIDMAN, and Professor KUMANO Yoshisuke as our keynote speakers to share the current evolution in the education industry. I would also like to express our sincerest gratitude to the Programme Committee Co-chairs of ICLT2020 – Professor CHENG May Hung May, Professor YU Kwan Wai Eric, Dr TSANG Po Keung Eric, Mr HUI Yan Keung John, and Dr CHENG Po Ying Sidney – and members of the Local Organising Committee – Mr CHU Tsz Wing, the chief headmaster of St. Hilary's Primary School and VNSAA St. Hilary's School, and Mr SO Ping Fai, the head of school of Tin Shui Wai Methodist Primary School and the chairman of Subsidised Primary Schools Council.

Furthermore, a round of applause should be given to the strand coordinators, Dr CHEN Junjun, Dr HUI King Fai Sammy, Professor KO Po Yuk, Dr LAM Bick Har, Dr LAM Wai Man Winnie, Dr LEE Tai Hoi Theodore, Dr NG Tsui San Teresa, Professor SO Wing Mui Winnie, Dr YEUNG Chi Ho Bill, who have reviewed over 100 abstracts received for ICLT2020. 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 ICLT2020. Thank you.

Organising Committee

International Conference on Learning and Teaching 2020 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 Mr HUI Yan Keung John |
| Local Organising Committee Co-Chairs | Mr CHU Tsz Wing Mr SO Ping Fai |
| Strand Coordinators | Dr CHEN Junjun Dr HUI King Fai Sammy Professor KO Po Yuk Dr LAM Bick Har Dr LAM Wai Man Winnie Dr LEE Tai Hoi Theodore Dr NG Tsui San Teresa Professor SO Wing Mui Winnie Dr YEUNG Chi Ho Bill |
| Conference Secretariat | Ms CHAN Shui Fan Trudi Ms CHANG Hei Laam Helen Miss CHEUNG Wai Yin Nikita Ms KAM Lok Sze Iris Miss LAM Tsz Ching Jasmine Mr LIU Yee Keung Bruce Ms MA Yungsi Tina |

International Conference on Learning and Teaching

Programme

Introduction

The International Conference on Learning and Teaching 2020 to be held from 2 to 4 December 2020 features four keynote speeches by Professor John FURLONG, University of Oxford in the United Kingdom, Professor Anne PHELAN, The University of British Columbia in Canada, Dr Gillian KIDMAN, Monash University in Australia, and Professor KUMANO Yoshisuke, Shizuoka University in Japan. Please visit our Conference website for more information: <https://www.eduhk.hk/iclt2020/>.

2 December 2020 (Wednesday) // 09:00 – 17:00 // Online via Zoom

| December 2025 (Wednesday) 11:00 – 17:00: Online via Zoom | | | | |
|--|---|--------------|--------------|-------------|
| Time | Programme | | | |
| Morning Session | | | | |
| 09:00 – 09:30 | Registration | | | |
| | Room 1 | Room 2 | Room 3 | Room 4 |
| 09:30 – 09:50 | Session 1.1 | | Session 3.1 | |
| 09:50 – 10:10 | Session 1.2 | Session 2.1 | Session 3.2 | |
| 10:10 – 10:30 | Session 1.3 | Session 2.2 | Session 3.3 | |
| 10:30 – 10:45 | Break | | | |
| | Room 1 | Room 2 | Room 3 | Room 4 |
| 10:45 – 11:05 | Session 4.1 | Session 5.1 | Session 6.1 | |
| 11:05 – 11:25 | Session 4.2 | Session 5.2 | Session 6.2 | |
| 11:25 – 11:45 | Session 4.3 | Session 5.3 | Session 6.3 | |
| 11:45 – 13:00 | Lunch | | | |
| Afternoon Session | | | | |
| | Room 1 | Room 2 | Room 3 | Room 4 |
| 13:00 – 13:20 | Session 7.1 | Session 8.1 | Session 9.1 | Symposium 1 |
| 13:20 – 13:40 | Session 7.2 | Session 8.2 | Session 9.2 | |
| 13:40 – 14:00 | Session 7.3 | Session 8.3 | Session 9.3 | |
| | Room 1 | Room 2 | Room 3 | Room 4 |
| 14:00 – 14:20 | Session 10.1 | Session 11.1 | Session 12.1 | Symposium 2 |
| 14:20 – 14:40 | Session 10.2 | Session 11.2 | Session 12.2 | |
| 14:40 – 15:00 | Session 10.3 | Session 11.3 | Session 12.3 | |
| 15:00 – 15:35 | Break | | | |
| 15:35 – 15:45 | Opening Ceremony | | | |
| 15:45 – 17:00 | Keynote Speech 1 – Professor John FURLONG | | | |

3 December 2020 (Thursday) // 09:15 – 17:15 // Online via Zoom

| Time | Programme | | | |
|-------------------|--|--------------|--------------|--------------|
| Morning Session | | | | |
| 09:00 – 09:30 | Registration | | | |
| 09:30 – 10:30 | Keynote Speech 2 – Professor Anne PHELAN | | | |
| 10:30 – 10:45 | Break | | | |
| | Room 1 | Room 2 | Room 3 | Room 4 |
| 10:45 – 11:05 | Session 13.1 | Session 14.1 | Session 15.1 | Symposium 3 |
| 11:05 – 11:25 | Session 13.2 | Session 14.2 | Session 15.2 | |
| 11:25 – 11:45 | Session 13.3 | Session 14.3 | Session 15.3 | |
| | Room 1 | Room 2 | Room 3 | Room 4 |
| 11:45 – 12:05 | Session 16.1 | Session 17.1 | Session 18.1 | Symposium 4 |
| 12:05 – 12:25 | Session 16.2 | Session 17.2 | Session 18.2 | |
| 12:25 – 12:45 | Session 16.3 | Session 17.3 | Session 18.3 | |
| 12:45 – 13:45 | Lunch | | | |
| Afternoon Session | | | | |
| 13:45 – 14:45 | Keynote Speech 3 – Dr Gillian KIDMAN | | | |
| 14:45 – 15:00 | Break | | | |
| | Room 1 | Room 2 | Room 3 | Room 4 |
| 15:00 – 15:20 | Session 19.1 | Session 20.1 | Session 21.1 | Symposium 5A |
| 15:20 – 15:40 | Session 19.2 | Session 20.2 | Session 21.2 | |
| 15:40 – 16:00 | Session 19.3 | Session 20.3 | Session 21.3 | |
| 16:00 – 16:15 | Break | | | |
| | Room 1 | Room 2 | Room 3 | Room 4 |
| 16:15 – 16:35 | Session 22.1 | | Session 24.1 | Symposium 5B |
| 16:35 – 16:55 | Session 22.2 | Session 23.1 | Session 24.2 | |
| 16:55 – 17:15 | Session 22.3 | Session 23.2 | Session 24.3 | |

International Conference on Learning and Teaching

4 December 2020 (Friday) // 09:00 – 15:30 // Online via Zoom

| <u>Time</u> | <u>Programme</u> |
|--------------------------|--|
| Morning Session | |
| 09:00 – 09:30 | Registration |
| | Room 1 Room 2 Room 3 Room 4 |
| 09:30 – 09:50 | Session 26.1 |
| 09:50 – 10:10 | Session 25.1 Session 26.2 |
| 10:10 – 10:30 | Session 25.2 Session 26.3 |
| 10:30 – 10:50 | Session 25.3 Session 26.4 |
| 10:50 – 11:15 | Break |
| 11:15 – 12:30 | Keynote Speech 4 – Professor KUMANO Yoshisuke |
| 12:30 – 12:35 | Closing Ceremony |
| 12:35 – 14:00 | Lunch |
| Afternoon Session | |
| 14:00 – 16:00 | Postgraduate Session |

Timetable - Keynote Speech, Symposium and Parallel Session

2 December 2020 (Wednesday) // 09:00 – 17:00 // Online via Zoom

| Session | Time | Name of Presenter | Presentation | Page |
|-------------------------|----------------------|--|---|----------------------|
| Keynote Speech | | | | |
| K1 | 15:45 – 17:00 | Professor John FURLONG | Making Change Happen - the Reform of Initial Teacher Education in Wales | P 19 |
| Symposium | | | | |
| S1 | 13:00 – 14:00 | Dr CHENG Po Ying Sidney Professor KONG Siu Cheung Mr HUI John Yan Keung Mr LAU Wai Tat | Symposium on Future Classroom | P 24 |
| S2 | 14:00 – 15:00 | Principal CHU Tsz Wing Mr MA Cheuk Lun Alvin | Symposium on STEM Education | P 25 |
| Parallel Session | | | | |
| 1.1 | 09:30 – 09:50 | Parbat DHUNGANA Yau Yuen YEUNG | Constructing a Framework for Affordable and Effective Use of Technology in STEM and Sustainability Education in Developing Countries: Nepal as a Case | P 30 |
| 1.2 | 09:50 – 10:10 | Lee CHENG Wing Yan Jasman PANG | Experiencing Interactive Design in Undergraduate General Education | P 32 |
| 1.3 | 10:10 – 10:30 | Scarlett Xiaoxia DING Angel Yan YANG Yau Yuen YEUNG | New Ways of STEM Education for Chinese Learners: Use of Technology and Field-based Learning | P 33 |
| 2.1 | 09:50 – 10:10 | Xuehong ZOU | The Teacher's Teaching is not to Cross the River by Feeling the Stone —Self Study on the Transformation of Theoretical Knowledge into Teachers' Practical Knowledge | P 46 |
| 2.2 | 10:10 – 10:30 | Songli WANG | Study on Working Time and Workload of Rural Teachers | P 45 |

International Conference on Learning and Teaching

| | | | | |
|-----|---------------|---|---|------|
| 3.1 | 09:30 – 09:50 | Maureen Yin Lee CHAN Ka Hing LAU Robin Stanley SNELL | The Community Impacts of Service-Learning and Key Factors that Increase the Likelihood of Positive Impacts | P 54 |
| 3.2 | 09:50 – 10:10 | Dave Gatrell | Feedforward with uRewind: Video-based Formative Assessment for Professional Learning | P 61 |
| 3.3 | 10:10 – 10:30 | Xiao PENG | Grade Inflation in China's Higher Education: Perceptions of Faculty and Students | P 63 |
| 4.1 | 10:45 – 11:05 | Elisa K BONE Gray A WILLIAMS Bayden D RUSSELL | Creating Digital Resources to Facilitate Authentic Place-based Learning and International Collaboration – A Coastal Case Study | P 31 |
| 4.2 | 11:05 – 11:25 | Leyla Yan LIU Irene Ailin LIN Steven Peibo YANG Yau Yuen YEUNG | Remote Laboratory for Enhancing Chemistry Education: Three Cases on Design and Development of Experiments for Secondary Schools in China | P 34 |
| 4.3 | 11:25 – 11:45 | Fridolin S T TING Ronnie H SHROFF Raycelle C GARCIA Carter W H LAM | Technology-Enhanced Active Learning: Applying a Novel Pedagogical Approach to STEM Education | P 35 |
| 5.1 | 10:45 – 11:05 | Xiaojing YAN | The Trajectory of Teacher Competence in the Development of Chinese Teacher Education | P 46 |
| 5.2 | 11:05 – 11:25 | Ye WANG James KO | The Impact of Online Training in Reflective Teaching and Classroom Observation on Pre-service Teachers' Self-efficacy, Pedagogical Content Knowledge and Practicum Practice: A Quasi-Experimental Study | P 39 |
| 5.3 | 11:25 – 11:45 | Jun ZHANG Qiujin DONG Zhaoxin WANG | Putting the Dreams into Practice: Multi-dimensional Understanding and Reconstruction of Young Teachers' Professional Identity_A Case Study of a Middle School Chemistry Teacher | P 44 |
| 6.1 | 10:45 – 11:05 | Natalie T Y LO Sam S S LAU | Teachers' Perception and Practices of Education for Sustainability in Early Childhood Education in Hong Kong | P 71 |

| | | | | |
|------|---------------|--|---|------|
| 6.2 | 11:05 – 11:25 | Cannie Y S CHAN Sam S S LAU | A Pilot Evaluation of the Effects of Classroom Nature Corner on Chinese Children's Nature Connection and Attention Span | P 68 |
| 6.3 | 11:25 – 11:45 | Patrick Chi Wai LEE | Integrating e-learning into Teaching English Grammar: Case Study | P 65 |
| 7.1 | 13:00 – 13:20 | Leona Xiaomeng YE Alex Lingzhi HU Yau Yuen YEUNG | Refinement of Remote Laboratory for Effective Physics Education: Two Cases for Pilot Study in Mainland Chinese Secondary Schools | P 33 |
| 7.2 | 13:20 – 13:40 | Si Qi TOH Tang Wee TEO | Evaluation of the Effectiveness of a STEM Applied Programme | P 32 |
| 7.3 | 13:40 – 14:00 | Minjie GU | Testing the Effectiveness of a STEM Model Featured by Inquiry-based Learning in Enhancing Student Learning in Junior Secondary Biology Curriculum | P 35 |
| 8.1 | 13:00 – 13:20 | Yun QU | Linking Humble Leadership to Teachers' Knowledge Sharing in Professional Learning Communities: A Serial Mediation of Psychological Safety and Psychological Empowerment | P 41 |
| 8.2 | 13:20 – 13:40 | Qiaohui LIU | On the Teaching Practice of Teacher Educators from the Perspective of Embodied Cognition Theory | P 42 |
| 8.3 | 13:40 – 14:00 | Chunxue ZHAO | Research on the Influence of School Culture on Job Satisfaction | P 44 |
| 9.1 | 13:00 – 13:20 | Amy LEE | General Education for the Individual: Healthy Lifestyle | P 63 |
| 9.2 | 13:20 – 13:40 | Wai Tung KO Yuk Wun CHAN Maggie Yue ZHAO | Application of Text Analytics in Examining students' Qualitative Feedback in Relation to Teaching and Learning | P 53 |
| 9.3 | 13:40 – 14:00 | Amy Mei-ching TSANG | Do We See the Way What the Students See? | P 56 |
| 10.1 | 14:00 – 14:20 | Lidan ZHANG Xinyun HU | A Design-Based Study of STEM Education in a Shenzhen Kindergarten | P 31 |

International Conference on Learning and Teaching

| | | | | |
|------|---------------|--|---|------|
| 10.2 | 14:20 – 14:40 | Xinyun HU Yutong LIANG Yahan HAI | Using STEM Toolkits to Support Young Children's Spatial Learning | P 36 |
| 10.3 | 14:40 – 15:00 | Xiaojun ZHANG Zhulin HAN Jia GOU | Interdisciplinary Research-led Learning Course Design and Implementation | P 49 |
| 11.1 | 14:00 – 14:20 | Benjamin Luke MOORHOUSE | Teaching Abroad during Initial Teacher Education: The Effects as Perceived by Recently Qualified Teachers | P 45 |
| 11.2 | 14:20 – 14:40 | Eric C K CHENG | Developing Metacognitive Teaching Skills Through a Tripartite School Partnership Model | P 38 |
| 11.3 | 14:40 – 15:00 | Yen Na YUM Da JIANG Rebecca Y M CHEUNG | Increasing Cultural Sensitivity Among Pre-service Teachers in Hong Kong | P 40 |
| 12.1 | 14:00 – 14:20 | Julie CHEN Pauline LUK Francis TSOI Joyce TSANG | Forming a Virtual Learning Community to Enhance Experiential Learning | P 61 |
| 12.2 | 14:20 – 14:40 | Fengzhan GAO Lan YANG Kuen Fung SIN | Examining the Impact of Cognitive- oriented Self-efficacy on Affecting Action-oriented Self-efficacy of Career Development of SEN Students in Hong Kong | P 57 |
| 12.3 | 14:40 – 15:00 | Liubov DARZHINOVA | Investigation into Sentence Comprehension in Language Users of Russian and English | P 66 |

3 December 2020 (Thursday) // 09:15 – 17:15 // Online via Zoom

| Session | Time | Name of Presenter | Presentation | Page |
|-------------------------|----------------------|-----------------------------------|--|----------------------|
| Keynote Speech | | | | |
| K2 | 09:30 – 10:30 | Professor Anne PHELAN | Educating the Singular Teacher | P 21 |
| K3 | 13:45 – 14:45 | Dr Gillian KIDMAN | Transgressing Boundaries: Developing Attitudes and Actions for Sustainable Development | P 22 |

| Symposium | | | | |
|------------------|---------------|--|--|------|
| S3 | 10:45 – 11:45 | Professor KONG Siu Cheung Principal Shirley DUTHIE CHUANG Sha Li Principal ZHU Weilin Mr CHING Chi Cheung Mr Daniel FUNG Long | Implementing a Learning Framework to Promote Computational Thinking in STEM Education | P 26 |
| S4 | 11:45 – 12:45 | Dr CHEUNG Ka Luen Dr WAN Lai Yin Sarah Dr YEUNG Chi Ho | Flipping in the Virtual Education World - Sharing of Pedagogies and Practices | P 27 |
| S5A | 15:00 – 16:00 | Dr Julie CHEN Professor KONG Siu Cheung Dr Pauline LUK | Beyond the e-portfolio: Connectivity and Communities of Learning in a Virtual Environment (Part 1) | P 28 |
| S5B | 16:15 – 17:15 | Dr Julie CHEN Professor KONG Siu Cheung Dr Pauline LUK | Beyond the e-portfolio: Connectivity and Communities of Learning in a Virtual Environment (Part 2) | P 28 |
| Parallel Session | | | | |
| 13.1 | 10:45 – 11:05 | Hoi Kit Victor KWOK Kam Fai Richard LAU Tiffany KWONG | Future-proofing Our Workforce with a Paradigm Shift: A Policy Perspective | P 62 |
| 13.2 | 11:05 – 11:25 | Fred K T KU David L K CHOW Andrew C L YUEN Edwin K M MOK | Student Performance in Online Classes – A Comparative Study | P 70 |
| 13.3 | 11:25 – 11:45 | Yao Yao DONG Zhi Kun ZHANG Jian LIU | Features of Online Courses as COVID-19 Takes Hold ——An Example of Micro Course 3.0 of New Century Primary Mathematics | P 60 |
| 14.1 | 10:45 – 11:05 | Qian WANG Jiajun LIU Haibo GU | Action Research: Applying Design-thinking in Transferring Western Teaching Practices to Indigenous Teachers | P 37 |
| 14.2 | 11:05 – 11:25 | Yu LIU | The Influence of Participating in Educational Research on Teaching Expertise Development | P 40 |

International Conference on Learning and Teaching

| | | | | |
|------|---------------|--|--|------|
| 14.3 | 11:25 – 11:45 | Derek Wai Sun CHUN Siu Ho YAU Hei Hang Hayes TANG | Constructing the Professional Identity of STEM Teacher in Hong Kong: A Transition for STEM Education Professionalism | P 38 |
| 15.1 | 10:45 – 11:05 | Martin LAU Frankie LEUNG Theresa KWONG Lisa LAW Eva Y W WONG | Developing Multidisciplinary & Multicultural Teams in a Digital World: Experience from Two eTournaments on the United Nations Sustainable Development Goals | P 55 |
| 15.2 | 11:05 – 11:25 | Kendall YAN Martin LAU Grace NG Lisa LAW Theresa KWONG Eva Y W WONG | Using Technology to Teach Attitudinal Skills: Extending the Augmented Reality Ethical Trails Beyond Hong Kong | P 72 |
| 15.3 | 11:25 – 11:45 | Cherry Eron FRONDOZO Lan YANG | Examining the Relationships between Feedback Orientation and Learning-Related Achievement Emotions | P 58 |
| 16.1 | 11:45 – 12:05 | Chang WEI Mingyue Michelle GU | Exploring EFL Teachers' Instructional Design and Teacher-Student Interactions in Secondary Schools while Implementing Emergency Remote Teaching (ERT) Amidst the COVID-19 Pandemic: The Experiences from China | P 59 |
| 16.2 | 12:05 – 12:25 | Cindy Man Fong LAM | Putonghua/Mandarin Learning of South Asian Students in Hong Kong | P 69 |
| 16.3 | 12:25 – 12:45 | John IVESON | Group Digital Documentaries in English Language Teaching: Benefits and Challenges of Collaborative Online Assessments | P 64 |
| 17.1 | 11:45 – 12:05 | Hei Hang Hayes TANG | Global Citizenship and Initial Teacher Education in an Asian Global City: Diverse Conceptions and Pedagogic Implications | P 39 |
| 17.2 | 12:05 – 12:25 | Tang Wee TEO Ching Yee PUA | Pedagogical Practices in Inclusive Classroom | P 42 |
| 17.3 | 12:25 – 12:45 | Methew MAU | Interactive Mathematics Lessons by Scratch | P 41 |

| | | | | |
|------|---------------|---|--|------|
| 18.1 | 11:45 – 12:05 | Jing SUN Fuling CHEN Jiangfeng LIN | Investigation on Instructors' Teaching Adaptability to the Rapid Transition to Online Teaching at Macau colleges during COVID-19 Pandemic | P 65 |
| 18.2 | 12:05 – 12:25 | Florence Jia Yun NG John HENG | Student as Partners in Rubric Design: A Case Study of a Gradeless Module | P 70 |
| 18.3 | 12:25 – 12:45 | Ying Zhan | Does Formative E-assessment Enhance Students' Learning Engagement? A Pilot Study in Hong Kong | P 56 |
| 19.1 | 15:00 – 15:20 | Juan GAO Lan YANG | Exploring the Trend of Research on Feedback and Self-regulated Learning: A CiteSpace Analysis | P 59 |
| 19.2 | 15:20 – 15:40 | Xuanyi WU James Yue On KO | Experiences of Constructing Physical and Social Knowledge in Child-adult Interactions: An Experimental Study on Dialogic Teaching and Storybook Reading | P 58 |
| 19.3 | 15:40 – 16:00 | Xiaoai Shen | The Effects of TikTok's Video Types on Improving University Students History Learning and Motivation: A Randomised Controlled Study | P 60 |
| 20.1 | 15:00 – 15:20 | Vivian LEE Paul LAI Janita CHAU Samuel WONG Wallace CHAN Anna LO Felix FONG Enoch NG | Improving Students' Understanding of Patients through Implementing Interprofessional Service Learning Activities in the Community | P 49 |
| 20.2 | 15:20 – 15:40 | Junjun CHEN Daniel Hung Kay CHOW | Disseminating the Findings of Teaching Development Grant: Measuring Students' Well-being Across Three Collaborative Positive and Values Education Courses Using an Integrated Well-being Model | P 48 |
| 20.3 | 15:40 – 16:00 | Ka Long CHAN Man Sing WONG Roy KAM | Using the Bluetooth Low Energy (BLE) Positioning Technology to Study the Relationship between Students' Seating Location and their Academic Performances | P 51 |

International Conference on Learning and Teaching

| | | | | |
|------|---------------|--|---|------|
| 21.1 | 15:00 – 15:20 | Xiaojun ZHANG Yue SU Cancan JIN Zheng HUAN | Cultivating Future Talents Through Research-led Learning and Teaching | P 54 |
| 21.2 | 15:20 – 15:40 | Rui MA | Research on the Coping Strategies of Chinese Higher Music Education Under the COVID-19 Epidemic Situation and the Prospect of Informatization | P 69 |
| 21.3 | 15:40 – 16:00 | Yat Ling CHOY | The Intersection of Affective Education and Satir Model: Start with the Iceberg Theory | P 66 |
| 22.1 | 16:15 – 16:35 | Baoru SONG | Peer Feedback Training and Peer Feedback Effectiveness in Enhancing Social and Academic Achievements in Group Projects | P 68 |
| 22.2 | 16:35 – 16:55 | Liu SHI Ling ZHANG | Acoustic-Data-Based Pronunciation Learning and Teaching: New Methodology for Chinese as a Second Language in the 21st Century | P 52 |
| 22.3 | 16:55 – 17:15 | Xinyun HU Yutong LIANG Jiayi XU | Future Classroom in Early Years: An Exploratory Study in Hong Kong | P 62 |
| 23.1 | 16:35 – 16:55 | Tung Hiu HON | Partnership, Participatory, Drama and Art-based Approaches for Business Education: A Case Study in China | P 50 |
| 23.2 | 16:55 – 17:15 | Eric King Man CHONG Frank Shun Shing PAO Vincent Wan Suen CHENG Lawrence Ka Ki HO Karen Man Yee LEE May Mei Yee WONG | Promoting Digital Citizenship Education in Hong Kong Secondary Schools: A Teaching Study on Supporting Schools in Professional Development | P 43 |
| 24.1 | 16:15 – 16:35 | Valeriy BADMAEV Olga MAKSIMOVA | Buddhist Educational Programs: The Experience of Indian and Russian Universities | P 53 |

| | | | | |
|------|---------------|---|---|------|
| 24.2 | 16:35 – 16:55 | Edward BROOKS Samson TSE Jessie YUE WRIGHT | Leadership Learning in Higher Education in the 21st Century: How Can Universities Cultivate Responsible Leaders Who Will Flourish in the Midst of Challenges and Further the Good of Society? | P 67 |
| 24.3 | 16:55 – 17:15 | Leanne Lai Hang CHAN Rosa Ho Man CHAN Stella W PANG | A Laboratory-Based Undergraduate GE Curriculum that Integrates Engineering and Neuroscience | P 67 |

4 December 2020 (Friday) // 09:00 – 15:30 // Online via Zoom

| <u>Session</u> | <u>Time</u> | <u>Name of Presenter</u> | <u>Presentation</u> | <u>Page</u> |
|-------------------------|---------------|---|---|-------------|
| Keynote Speech | | | | |
| K4 | 11:15 – 12:30 | Professor KUMANO Yoshisuke | The Theories and Practices for the 21C skills as the STEM/STEAM Models for the Japanese Contexts - Comparing to NGSS of the US Contexts with the Evidences of Shizuoka STEM Academy | P 23 |
| Symposium | | | | |
| S6 | 09:30 – 10:50 | Dr Theresa KWONG Mr Dean C K COX Dr LAM Wai Man Winnie Dr LI Kristen Yuanxi Dr YEE Ting Sum Lydia | Alternative Assessment in Reality | P 29 |
| Parallel Session | | | | |
| 25.1 | 09:50 – 10:10 | Chong XIAO Priyanka SEN | Education for Sustainable Development (ESD) as an Approach to Nurturing Liberally Educated Citizens | P 47 |
| 25.2 | 10:10 – 10:30 | Xinshan LYU | Merge with Nature: Involve More Children in Outdoor Environmental Education | P 50 |
| 25.3 | 10:30 – 10:55 | Yasmin FONG James KO | Examining the Impact of Teaching Instructions on Young Children's Visual and Creative Thinking: A Vygotskian Perspective | P 48 |

International Conference on Learning and Teaching

| | | | | |
|------|---------------|---|---|------|
| 26.1 | 09:30 – 09:50 | Zhi Hong WAN John Chi Kin LEE Weiping HU | How Should Undergraduate Students Perceive Knowledge as a Product of Human Creation? Insights from a Study on Epistemic Beliefs, Intellectual Risk-Taking, and Creativity | P 64 |
| 26.2 | 09:50 – 10:10 | Dongkun HAN Asta Lai Fan LAI Chi Ming CHEUK | Teaching and Learning Renewable and Recycling Technologies at CUHK Smart Garden | P 71 |
| 26.3 | 10:10 – 10:30 | Lijing YE Lan YANG Yuan LIAN | Developing an Approach to Learning Inventory (ALI) to Assess Chinese Character Writing (CCW) Motivation and Strategies in Vietnamese Students | P 55 |
| 26.4 | 10:30 – 10:50 | Zi Qi PEH Tang Wee TEO | Examining Eye-gaze Patterns of Experts and Novices in Graph Interpretation | P 57 |

Detailed Information of Keynote Speakers

Making Change Happen - The Reform of Initial Teacher Education in Wales

2 December 2020 | 15:45 – 17:00

Professor John FURLONG

OBE, Emeritus Professor of Education, University of Oxford, UK



Abstract

In her recent book, Marilyn Cochran-Smith makes an impassioned plea for an end to the performativity-driven forms of external accountability in initial teacher education (ITE) that now dominate the USA, England and Australia. Instead she pleads for a 'democratic accountability' that would allow local institutions to develop their own more explicit focus on key issues such as social justice in ways that would help to make change happen. But what would this actually look like in practice? Wales, perhaps, provides a case study that may help us to respond to that question.

In the last two years, Wales has seized on the opportunities provided by wider educational reform to radically change its ITE provision. The aim has been to ensure that universities and local school systems collaborate in partnership to provide the best learning opportunities for student teachers so as to embed changed practice.

A new accreditation procedure has been established which, in contrast to other countries, begins with a 'vision' for student teacher learning, recognising that learning to teach involves students drawing on a range of different forms of professional knowledge.

The vision is itself based on nearly 40 years of research, research that has focused on three fundamental questions about the process of learning to teach:

1. What forms of professional knowledge can only be learned in school – the importance of 'embodied' knowledge;
2. What forms of professional knowledge is Higher Education best placed to contribute – research, theory, knowledge of practice elsewhere;
3. How do we design programmes that ensure that ITE is rigorously practical and intellectually challenging at the same time?

In order to achieve the new vision, teacher educators in universities and schools are now required to work together to develop a much stronger role for schools in the planning, management and delivery of ITE, with a much stronger role for research and scholarship amongst all 'front line' teacher educators in both schools and universities. Universities have also been required to devolve significant funds to schools.

But will the new model work? Will it increase the ability of new teachers not only to understand but to address issues such as inequality in practice? This paper outlines the changes for ITE in Wales, the research underlying them and considers their likely impact.

International Conference on Learning and Teaching

Biography

John FURLONG, OBE is an Emeritus Professor of Education at the University of Oxford and an Emeritus Fellow of Green Templeton College. From 2003 – 2009 he was head of the Department of Education at Oxford having previously held posts at Bristol, Cardiff, Swansea and Cambridge Universities. A former President of the British Educational Research Association, he was elected as an Academician of the Academy of Social Sciences in 2004. His current research interests centre on both teacher education and educational research policy and the links between them. He has been author of a number of government reports on teacher education over recent years - Wales (2007), Brunei (2008), the Republic of Ireland (2013) Northern Ireland (2014) and Wales (2015). He is currently an adviser to the Welsh Government on Initial Teacher Education and Chair of the Teacher Education Accreditation Board for Wales. In 2013-14 he was Chair of the BERA-RSA Inquiry into Research and Teacher Education. He was a member of the 2008 and 2014 RAE/REF sub-panels in Education in the UK and Convenor of the Education Panel for the Hong Kong RAE 2014. In 2015, his book 'Education – an anatomy of the discipline' was awarded first prize by the British Society for Educational Studies, for the best educational research of the year; his most recent book (edited with Geoff Whitty) 'Knowledge and the Study of Education – an international exploration' was published by Symposium Books in June 2017. John FURLONG was awarded the OBE for services to research in education and advice to government in 2017.

Educating the Singular Teacher

3 December 2020 | 9:30 – 10:30

Professor Anne PHELAN

Professor and co-Director of the Centre for the Study of Teacher Education,
The University of British Columbia, Canada



Abstract

Much research attests to the destructive inclinations imminent in educational institutions ordered by accumulation, productivity and competition. Harnessed to such ends, the teacher is indistinguishable from the existing socio-political order (i.e. teaching standards; evidence-based or 'best' practice) and its desired results (i.e. human capital, represented by the student achievement test scores, extracted in the interests of global capitalism). As such, educational policy relies on and operates through a politics of teacher identity that defines teachers exclusively in terms of effects. In this presentation I argue that the current politics of teacher identity has rendered the language of 'profession' and 'professional education' meaningless for teachers. Inspired by Max Weber's (1919) lectures on vocations as 'august noble endeavours' and Wendy Brown's (2017) more recent writing on 'the vocation of the public university,' I examine the implications of the revitalization of teaching as a vocation for teacher education. As an ethico-political response to the normative order, the idea of vocation provokes and sustains the teacher's own singularity (irreplaceability) as an ethical-political subject; it acknowledges the precarious possibilities of composing and recomposing a (teaching) self in the company of others; and it returns teachers to the importance of their assessment of what matters on the basis of an always inaccessible 'good.' I ask whether the language of vocation is enough to rescue teachers and teaching from the toxic forces of our times.

Biography

Anne PHELAN is a Professor in the Department of Curriculum and Pedagogy, and co-Director of the Centre for the Study of Teacher Education, at the University of British Columbia. She is also Honorary Professor in the Department of Policy and Leadership at the Education University of Hong Kong. Her research focuses on the intellectual and political freedom of K-12 teachers and on the creation of teacher education programs and policies that support that end. Her work has explored (a) the relationship between language, subjectivity, and practice; and (b) the dynamic of judgment and responsibility; and (c) the paradoxes of autonomy (creativity and resistance) and obligation in teacher education and in professional life. Her books (authored, co-authored and co-edited) include: *Reconceptualizing Teacher Education: A Canadian Contribution to a Global Challenge* (University of Ottawa Press, 2020), *The Power of Negative Thinking: Teacher Education and the Political* (Routledge, 2017), *Curriculum Theorizing and Teacher Education: Complicating Conjunctions* (Routledge, 2015), and *Critical Readings in Teacher Education: Provoking Absences* (Sense Publishers 2008).

Transgressing Boundaries: Developing Attitudes and Actions for Sustainable Development

3 December 2020 | 13:45 – 14:45

Dr Gillian KIDMAN

Associate Professor, Monash University, Australia



Abstract

As the world faces potentially catastrophic environmental and health issues, we hear calls for Sustainability: the ability to maintain healthy environmental, social and economic systems in balance, indefinitely, on a global and local scale. To meet these calls, we need improved ways to integrate knowledge from all perspectives, and use it for a better world. We need collaboration between university, government and industry domains. Importantly, we also need improved educational practices to ensure we have informed citizens and a next generation of researchers with the ability to think and work in transdisciplinary teams. In this presentation, we will explore the nature of this improved Education for Sustainable Development. Consideration needs to be given to how we educate so that disciplinary boundaries are transgressed; so that we build on our existing knowledge, seek out new knowledge and skills, make connections between our prior knowledge and the challenges we encounter, and to learn from our experiences. Thus we need a transdisciplinary approach to education for sustainable development that is both an attitude and a form of action.

Biography

Dr Gillian KIDMAN is an A/Professor of Science Education at Monash University, with a particular interest in inquiry-based processes, and the potential inquiry has for the integration of science with other disciplines for solving real world problems. She is currently working on the transdisciplinary nature of STEM inquiry. Gillian's research, teaching and curriculum design is award winning at both the State and National levels, she is a Co-Editor for the journal International Research in Geographical and Environmental Education, and she was a Writer and Senior Advisor of the Australian Curriculum: Science, and Australian Curriculum: Biology. Her specific contributions were in the Science Inquiry Skills strand of the curriculum.

The Theories and Practices for the 21C skills as the STEM/STEAM Models for the Japanese Contexts - Comparing to NGSS of the US Contexts with the Evidences of Shizuoka STEM Academy

4 December 2020 | 11:15 – 12:30



Professor KUMANO Yoshisuke

Professor of Science Education, Graduate School of Science & Technology (Ph.D. Program), Informatics Section and Faculty of Education, Shizuoka University, Japan

Abstract

Almost all western countries including Asian countries has been interested in the next frameworks so-called, 21st century skills or competencies towards Society 5.0 (MEXT). It is so difficult to find those skills or competencies for the near future simply because we do not know what kinds of innovations in science & technologies are coming. However, we can develop skills or competencies which can elaborate an innovation in science & engineering. Implementation from my researches will go to the needs of Global collaborative researches on 21st century skills in STEM/STEAM education. We do not know what kinds of STEM literacy needed 50 years later, however, we can challenge to develop educational system and innovative STEM learning that can support new coming Society 5.0. Problem Based Learning or Project Based Learning will be the lessons model and group or individual inquiries or practices will be identified as the central learning at the informal and formal setting.

Biography

Kumano YOSHISUKE is the Professor of Science Education, Graduate School of Science & Technology (Ph.D. Program), Informatics Section, and Faculty of Education, Shizuoka University, Japan. He got grants two times from Fulbright Programs as the Visiting Scholar, the University of Iowa in 2012 and, his Ph.D. Program in Science Education, the University of Iowa in 1989-1993. His Mentor was Prof. Robert E. Yager. Now, his major interests are on STEM Education Innovation in terms of researches and practices. He is conducting “Shizuoka STEM Academy” in the informal setting for about 50 students by the governmental grants (2019-2021). Now he is the President of East-Asian Association of Science Education and the Director for Japan Society for STEM Education.

Detailed Information of Symposia

Symposium on Future Classroom

2 December 2020 | 13:00 – 14:00

Chair

Dr CHENG Po Ying Sidney

University Librarian
The Education University of Hong Kong

Co-Chair

Professor KONG Siu Cheung

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

Mr HUI Yan Keung John

Chief Information Officer
The Education University of Hong Kong

Mr LAU Wai Tat

Director of Estates
The Education University of Hong Kong



Abstract

Initiated by EdUHK, the Future Classrooms@EdUHK Project is a large-scale initiative implemented with concerted efforts of Estates Office (EO), Library, Centre for Learning, Teaching and Technology (LTTC) and Office of the Chief Information Officer (OCIO) of the University. The Future Classrooms, tailored for future pedagogical models and needs taking advantage of the latest developments in the IT industry, aim to provide the environment for our students and faculty members to experience innovative learning and teaching. We envisage that with the successful experience of these state-of-the-art learning spaces and areas, pioneering teaching and learning models can be promoted and extended to the wider education sector. In this symposium, we will share EdUHK's experience in pathing the way to accomplish the Future Classrooms@EdUHK Project and propose the underlying principles which have been steering the whole process of designing and constructing the Future Classrooms at EdUHK. The Heads of EO, Library, LTTC and OCIO will share their insights on physical constructions, renovating learning spaces, pedagogical designs and IT applications for enhancing learning and teaching experience, respectively.

Symposium on STEM Education

2 December 2020 | 14:00 – 15:00

Chair

Principal CHU Tsz Wing

Chief Headmaster of St. Hilary's Primary School
and VNSAA St. Hilary's School



Mr MA Cheuk Lun Alvin

St. Hilary's Primary School

Abstract

This symposium will share up-to-date information and experiences about the promotion of STEM education in Hong Kong and other regions aiming to enlighten participants' awareness of the importance of developing students' capacity to innovate through promoting STEM education. It is also an opportunity for participants to strengthen the engagement of community partners in promoting STEM education as well as in providing hands-on experience for students to develop creative thinking skills and to groom innovative spirit.

International Conference on Learning and Teaching

Implementing a Learning Framework to Promote Computational Thinking in STEM Education

3 December 2020 | 10:45 – 11:45

Chair

Professor KONG Siu Cheung

Director of Centre for Learning, Teaching and Technology
Professor of Department of Mathematics and Information Technology
The Education University of Hong Kong



Principal Shirley DUTHIE CHUANG Sha Li

The Education University of Hong Kong Jockey Club Primary School

Principal ZHU Weilin

Fung Kai No.1 Primary School

Mr CHING Chi Cheung

Fukien Secondary School Affiliated School

Mr Daniel FUNG Long

Sham Tseng Catholic Primary School



Abstract

A STEM Project titled “Computational and Design Thinking Focused STEM Education for Developing Problem Solving Capability and Digital Creativity of Junior and Senior Primary School Students” was initiated in Hong Kong. The project comprised of the development of a learning and evaluation framework, a pedagogical model for teaching, learning and teaching materials, and teacher development. The STEM Project aimed to advocate the integration of computing into STEM education and develop young learners’ computational thinking and digital creativity. Learners are empowered to create artifacts that solve real-life problems. This project developed a STEM Computational Thinking (CT) Framework that consists of concepts, practices, and perspectives. One of the key STEM Computational Thinking concepts is sensing-reasoning-reacting. We included several important practices for learners to develop during the STEM process such as causal reasoning, sequencing, conditional reasoning, and engineering systems thinking. Opportunities are provided for young learners to develop their interests in the learning process and hopefully learners are able to establish identity in this field. In this symposium, we will share the framework of the study and discuss the underlying principles which have been steering the whole process of designing and constructing the STEM CT Framework. Teachers implementing the STEM project will share their experience and reflection.

Flipping in the Virtual Education World - Sharing of Pedagogies and Practices

3 December 2020 | 11:45 – 12:45

Chair

Dr CHEUNG Ka Luen

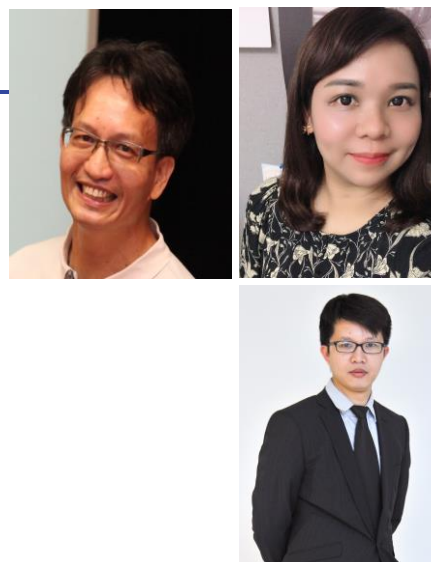
Department of Mathematics and Information Technology
The Education University of Hong Kong

Dr WAN Lai Yin Sarah

Department of Psychology
The Education University of Hong Kong

Dr YEUNG Chi Ho

Department of Science and Environmental Studies
The Education University of Hong Kong



Abstract

The Flipped Classroom (FC) is a well-recognized educational model that promotes student-centered learning by assigning lectures outside of class and devoting class time to a variety of learning activities. In a FC, students are encouraged to be active shapers of their own learning and problem solvers, with the aid of technology. Recently, the COVID-19 pandemic has given the world a great online learning experiment, and conducting synchronous online teaching on Zoom and keeping students engaged in virtual classes are major challenges shared by many EdUHK teachers in the past few months. To address these problems, this symposium will introduce a new pedagogical approach, the Virtual Flipped Classroom (VFC). The VFC is an integration of two concepts: FC and Virtual Classroom. It enables teachers to reformulate the time spent in a virtual classroom in which active learning activities needed to achieve the best learning levels are implemented while keeping students engaged. Teachers from Department of Psychology (PS), Department of Mathematics and Information Technology (MIT), and Department of Science and Environmental Studies (SES) will share their experience of implementing FC and or VFC in their own disciplines and challenges that they have met, as well as disseminating good practices in this symposium.

International Conference on Learning and Teaching

Beyond the e-portfolio: Connectivity and Communities of Learning in a Virtual Environment

3 December 2020 | 15:00 – 17:15

Co-Chairs

Dr Julie CHEN

Project Leader
Li Ka Shing Faculty of Medicine
The University of Hong Kong

Professor KONG Siu Cheung

Project Co-Leader
Centre for Learning, Teaching and Technology
The Education University of Hong Kong

Dr Pauline LUK

Lecturer and Project Manager connect*ed
Li Ka Shing Faculty of Medicine
The University of Hong Kong



Abstract

The project titled “Beyond the e-portfolio: connectivity and communities of learning in a virtual environment” is a UGC-funded project led by the Li Ka Shing Faculty of Medicine of HKU and collaborated by the Centre for Learning, Teaching and Technology of EdUHK, which aims to enhance students learning experiences through innovations and provide opportunities for students from the two universities to exchange ideas and collaborate. In this presentation, students from the two universities will share their off-campus learning experience throughout this year and how the use of virtual environment and collaborative tasks enhance their learning experience and reflections on generic skills. Tutors from the two universities who serve as group mentors will also share their experience and challenges encountered guiding the students during the panel discussion.

Alternative Assessment in Reality

4 December 2020 | 09:30 – 10:50

Chair

Dr Theresa KWONG

Assistant Director of Centre for Holistic Teaching and Learning
Hong Kong Baptist University

Mr Dean C K COX

Department of Journalism
Hong Kong Baptist University

Dr LAM Wai Man Winnie

Department of Mathematics and Information Technology
The Education University of Hong Kong

Dr LI Kristen Yuanxi

Department of Computer Science
Hong Kong Baptist University

Dr YEE Ting Sum Lydia

Department of Psychology
The Education University of Hong Kong



Abstract

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 examine the inter-relatedness of summative assessment and formative assessment and explore new possibilities of developing rubrics that document and assess the learning processes with digital technology support. The current COVID-19 pandemic makes this exploration timely and relevant, as Academic/ Teaching staff members continue to juggle with the complications caused by moving away from traditional means of class operations and the inadvertent interruptions in continuity of teaching. While the literature has documented the positive impact of assessment for learning, there is limited shared examples of how theories about could translate into practice, particularly at the course level and with a mix of delivery modes. In this symposium, frontline Academic/ Teaching staff members from both universities will share their joys and pains in re-designing assessment plans for their courses amid special class arrangements during the COVID-19, as well as how they gather new impetus for broader application of alternative assessment in their teaching.

Detailed Information of Parallel Sessions STEM Education

Constructing a Framework for Affordable and Effective Use of Technology in STEM and Sustainability Education in Developing Countries: Nepal as a Case

2 Dec 2020 | 9:30 – 9:50

Parbat DHUNGANA

The Education University of Hong Kong

Yau Yuen YEUNG

The Education University of Hong Kong



Abstract

Technology enhanced learning has been an expanding global phenomenon creating virtual to real-time hands-on experiences for all learners. Studies suggest that technology in education can help address issues of educational equity by enhancing educational access and environmental issues by easing ecological literacy. Whereas, the other side of the story is slightly different; there are noted constraints in almost all education systems to effectively integrate the Technology Enhanced Learning Environment (TELE). Three resources namely; human (teachers), finance, and time are identified barrier for school systems, more prominent in the developing countries including Nepal. This design-based research with its compatible protocol envisions to simultaneously facilitate TELE in STEM and Sustainability education for these resources' constraint conditions. The strength of the protocol lies on tailored low-cost device, with asynchronous instructions, and natural settings as laboratory. These instructions will work for teachers as well as students saving both of their school time. Whereas the use of common pool resources as open natural laboratory will help to overcome the challenges of physical laboratory. The guiding principle is to keep a minimal addition of cost, time, neither teacher training nor panic efforts for teachers. The design is inspired from 'think globally, act locally' sustainability framework bringing web-based and hands-on technology to a context. The students get hands-on experiences and develop a greater level of understanding and motivation with Science, where teacher start acquainting themselves to TELE. This paper explicates the design concept and rationale for constructing the framework of this pedagogic novelty.

Creating Digital Resources to Facilitate Authentic Place-based Learning and International Collaboration – A Coastal Case Study

2 Dec 2020 | 10:45 – 11:05

Elisa K BONE

The University of Melbourne

Gray A WILLIAMS

The University of Hong Kong

Bayden D RUSSELL

The University of Hong Kong

Abstract

Authentic, place-based experiential learning is essential for students of ecology, along with an understanding of human impacts. Creating future environmental leaders requires fostering such understanding whilst building transferable skills in collaboration, communication and cultural competence. Mobile and digital technologies can enable the sharing of data and learning experiences across international cohorts, allowing students to build a common understanding of these global environmental challenges. Here, we report on the initial stages in building a digital learning ecosystem to facilitate authentic learning in coastal ecology within undergraduate university courses across Australia and Hong Kong, locations that face similar challenges in managing their coastal environments. The centerpiece of this learning ecosystem, a mobile application to document coastal biodiversity, was initially designed for non-specialist users such as citizen scientists. Design-based research (DBR) provides a practical way to situate collaborative problem-solving research within real-world contexts. Guided by the DBR framework, we propose to: re-design the app for both the higher education context and for location-specific contexts, in consultation with developers, university instructors and industry partners; develop an accompanying digital platform and shared database to enable analysis, discussion and dissemination; and embed further communication tools such as video journaling. These tools will be developed in a collaborative, iterative process to ensure alignment with shared course learning objectives that emphasise leadership, communication and authentic problem-solving in both Australia and Hong Kong. By creating this learning ecosystem, we aim to assist students in both countries to build transferable skills and collaborative networks across cultural and geographic boundaries.



A Design-Based Study of STEM Education in a Shenzhen Kindergarten

2 Dec 2020 | 14:00 – 14:20

Lidan ZHANG

The Education University of Hong Kong

Xinyun HU

The Education University of Hong Kong

Abstract

Early childhood educators' perceptions and teaching practices can strongly influence the quality of STEM education. Quality STEM activity has a promising effect on nurturing children's habits of mind. The study aims to design a pedagogical tool to support educators and improve the quality of STEM activities. The design-based method is employed. The first stage of the study explored the practical educational context through understanding early childhood educators' perceptions and teaching practices on STEM education in Shenzhen. Data were collected by semi-structured interviews and online survey. The result indicated the educators valued STEM activities. The pedagogy challenges had been identified such as how to provide developmentally appropriate instructions and learning environments to engage children. However, they presented low awareness of nurturing children's habits of mind. The activities were the mainly teachers-led mode. They all followed one structured process including warm-up, input section, design and operation, and presentation. In the second stage, the study will design and exam the pedagogical tool based on Early childhood STEM habits of Mind and multimodal learning framework. Data will be collected through activity plans, videos, children's artifacts, and questionnaires. Content analysis will be employed to examine the effectiveness of the tool on children's engagement and thinking dispositions of STEM learning. The pedagogical tool is expected to guide educators to reconstruct instructions aligned to the philosophy of STEM education, support to transfer teacher-led mode to student-led mode in teaching, as well as establish classroom environments that enable deep and rich learning experience.



Evaluation of the Effectiveness of a STEM Applied Programme

2 Dec 2020 | 13:20-13:40

Si Qi TOH

Nanyang Technological University

Tang Wee TEO

Nanyang Technological University

Abstract

With Singapore's focus on building a smart economy driven by high technology innovations, there has been a greater emphasis towards an interdisciplinary STEM (science, technology, engineering and mathematics) education. In the past few years, many Singaporean schools have embarked on STEM education programmes to offer an integrative (two or more disciplines) learning experience for students. We discuss the findings from an evaluation study of STEM programmes in Singapore secondary schools. The study is framed by the theory of STEM capital. Five theoretical constructs examined included the students' views about STEM lessons, students' attitude towards STEM, self-concept in learning STEM, construction of STEM identities and career decisions in STEM. A total of 151 students, from 13 public secondary schools with STEM programmes, completed a validated online survey comprising 10 items per construct. The findings from Rasch analysis show that the students had positive views towards their STEM lessons as well as the applicability of STEM knowledge. However, students reported having low STEM self-concept and disliked the problem-based learning format of the STEM programme. This suggests the need to better explore ways to better engage students in problem-solving using authentic problems. We offer some recommendations on ways to design and implement an integrated STEM curriculum that offers integrated STEM learning experiences.

Experiencing Interactive Design in Undergraduate General Education

2 Dec 2020 | 09:50-10:10

Lee CHENG

The Education University of Hong Kong

Wing Yan Jasman PANG

The Education University of Hong Kong

Abstract

Interactive design has been drawing more attention in undergraduate learning due to the recently upraise of STEM education in primary and secondary schools. The widely available programming platform and affordable pocket-size circuit boards have also made the development of computational literacy and design thinking accessible at higher education level, not limiting only to engineering or design students. This session presents the development and implementation of an interactive design course under the undergraduate General Education (GE) curriculum at The Education University of Hong Kong. It is one of the newly available Experiential Learning Courses (ELC) that encourages students to learn through experimentation, reflection and re-conceptualization while undertaking a wide variety of activities. Students coming from different backgrounds and programmes were guided to develop their knowledge and skills for interactive design, and finally making their own prototype as a design solution for problems they encountered in daily life. As part of the experiential learning, they also visited electronics specialist's stores and picked the components they needed for their own design in an autonomous manner, as well as explored to exhibitions outside the campus for interactive designs from professional artists and designers. The experiential learning approach allows students from different levels of competence to plan and achieve their learning goals autonomously, while at the same time develop relevant knowledge and skills through learning-by-doing.



New Ways of STEM Education for Chinese Learners: Use of Technology and Field-based Learning

2 Dec 2020 | 10:10-10:30

Scarlett Xiaoxia DING

The Education University of Hong Kong

Angel Yan YANG

The Education University of Hong Kong

Yau Yuen YEUNG

The Education University of Hong Kong

Abstract

The examination-oriented education, de-emphasis of hands-on practical work in science lessons and the lack of interdisciplinary curricula are some of the major constraints or obstacles for STEM education in China as reflected from their deficiency or ineffectiveness in nurturing gifted students or talents. In this presentation, we will report two different innovative ways to employ technology and field-based learning for effective STEM education as based on our prize-winning educational device (called mobile logger for science and environmental studies with a corresponding software/app called SESlogger). In the first case, a cartoon video was specifically developed for teaching the primary school students on how to use the device and then students were arranged to practice it for field-based learning in a Guangdong school campus. In the second case, the mobile logger was used to collect on-site environmental data for hiking through all the ten sections of the MacLehose Trail with a total distance of 100km and then the best section of the Trail was designed as a kind of technology-enhanced field trip for trial run by some university students in Hong Kong. To evaluate the educational effectiveness, students' attitudes and views towards the STEM lessons and activities have been collected using questionnaire survey (together with the pre-test and post-test scores on the students' cognitive understanding and level of practical performance) or interviews. For these two cases, we will also present the findings on students' learning difficulties and field-based implementation problems or issues together with reflections from the researchers themselves.



Refinement of Remote Laboratory for Effective Physics Education: Two Cases for Pilot Study in Mainland Chinese Secondary Schools

2 Dec 2020 | 13:00-13:20

Leona Xiaomeng YE

The Education University of Hong Kong

Alex Lingzhi HU

The Education University of Hong Kong

Yau Yuen YEUNG

The Education University of Hong Kong

Abstract

Across different disciplines of science education, physics education is often taking the leading role in the innovative use technology to enhance its teaching and learning, especially for the laboratory practice or experimental work. In this presentation, two master of education students will report their work to make substantial refinement and improvement of our two existing physics experiments, namely (1) electrical circuits and (2) lighting technology. For the former set of experiments, we had employed the proprietary and expensive (>USD10,000) hardware and software from the National Instrument's LabView to provide students with different choices of light bulbs in either parallel or series connection. For the re-development, we will adopt a prize-winning low-cost (<USD100) and easy approach using the open-source microcontroller platform called Arduino and software like Apache and php. For the second set of physics experiments, they had already been developed using the aforementioned low-cost and easy approach but now we want to apply a video-based learning approach in which there is a story with many cartoon videos developed to guide the students or learners on how to conduct the experiments and complete the scientific investigation activities at different stages. A virtual scientist serves as a friendly learning companion or facilitator to provide scaffolding support and encouragement to the students. Those refined experiments have undergone pilot implementation in two secondary schools in Mainland China. Preliminary findings obtained from the questionnaire surveys and interviews of the participating students will be shared in this presentation together with the two postgraduates' personal reflections.



Remote Laboratory for Enhancing Chemistry Education: Three Cases on Design and Development of Experiments for Secondary Schools in China

2 Dec 2020 | 11:05-11:25

Leyla Yan LIU

The Education University of Hong Kong

Irene Ailin LIN

The Education University of Hong Kong

Steven Peibo YANG

The Education University of Hong Kong

Yau Yuen YEUNG

The Education University of Hong Kong



Abstract

In science/chemistry education, it is well-recognized that laboratory practice or experimental work is an indispensable component of the curricular activities and which is also applicable to STEM education which often involves hands-on activities to integrate with interdisciplinary subject knowledge. However, there are various problems or difficulties such as experimental safety, unavailability/unaffordable of sufficient sets of equipment, lack of laboratory space and time which will simply deprive students of enough opportunities to conduct experiments. As a substitution, teachers often either make live demonstration or ask students to view the virtual experiments or simulations, leading to less ideal educational outcomes. To remedy this deficiency, a low-cost and easy approach is proposed to design and develop remote-controlled (or online) experiments in which students can individually conduct real-time experiments at anywhere and anytime through the Internet using a browser in any computing device. In this presentation, we will report the work by three master degree students who apply this prize-winning approach to tailor-make their own new experiments in different chemistry topics, namely (a) basic experimental methods for investigation of petroleum products (rarely available in schools), (b) to explore the effect of temperature on the rate of color change in the "blue bottle" experiment, and (c) chemical equilibrium in transition metals. Those remote-controlled experiments have undergone pilot implementation in three different secondary schools in Mainland China. We shall share findings obtained from the questionnaire surveys and interviews of the participating students for collecting their feedback, views and problems on their first-person experience in the remote laboratory as well as the personal reflections from those postgraduate developers.

Technology-Enhanced Active Learning: Applying a Novel Pedagogical Approach to STEM Education

2 Dec 2020 | 11:25-11:45

Fridolin S T TING

The Hong Kong Polytechnic University

Ronnie H SHROFF

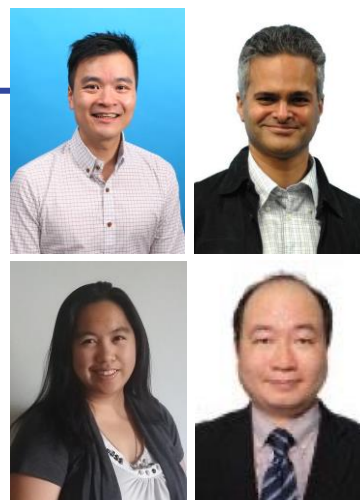
The Hong Kong Polytechnic University

Raycelle C GARCIA

The Hong Kong Polytechnic University

Carter W H LAM

Lingnan University



Abstract

Research has demonstrated the positive impact of active learning on students' academic performance, motivation and conceptual understanding, particularly in STEM fields. There is also evidence that mobile applications for education enable teachers to improve their teaching practices and engage and highly motivate students by providing them with new opportunities to participate and construct their own learning, individually or collaboratively. In this presentation, we will introduce our UGC-funded Pedagogic and Active Learning Solutions (PALMS) project and discuss the theoretical and pedagogical foundations for successfully applying active learning methodologies supported by mobile applications within STEM subjects and disciplines. The presentation will begin by introducing our UGC-funded PALMS Project and the 13 various pedagogies and e-tools developed by the PLAMS project team - from YoTeach!, in Mathematics, to ChemEye in Chemistry, to the Dissection Peer Support System (DPSS) in Medical Education. Secondly, we will elaborate with relevant examples, the methods via which technology and pedagogy need to be closely aligned in order to realize the potential and value of technology-enhanced active learning, particularly in STEM education. We will conclude with a discussion and demonstration of our novel active pedagogy called Collaborative Problem-Based Learning with Peer Assessment (Co-PBLa-PA). Co-PBLa-PA combines the three active teaching strategies and is supported in its implementation by utilizing web-based interactive whiteboards. Audience members will collaborate in groups to experience the engagement and fun in this new active teaching strategy and how it may be implemented in their own STEM and non-STEM subjects.

Testing the Effectiveness of a STEM Model Featured by Inquiry-based Learning in Enhancing Student Learning in Junior Secondary Biology Curriculum

2 Dec 2020 | 13:40-14:00

Minjie GU

The Education University of Hong Kong

Abstract

This mixed methods research will examine the effectiveness of a STEM strategy featured by inquiry-based learning in enhancing students learning in biological experiment class in a junior secondary school from Shenzhen. Researcher first integrates PIRPOSAL, a STEM teaching and learning model, into junior grade-one secondary biological curriculum. PIRPOSAL means a question center inquiry process including problem identification, ideation, research, potential solutions, optimization, solution evaluation, alterations and learned outcomes. It provides teachers and students a detail inquiry procedure under the cross-subject situation between science, technology, engineering and mathematics. This teaching and learning strategy helps jumping students' mind out of the stable classroom and students are allowed to tackle with authentic questions. In the treatment, nearly 200 students will be divided into two groups to conduct comparative experiment. The attitude towards STEM from teachers and students will be collected by interviews. Thematic analysis and inductive analysis will be conducted. At present, there is barely no relative researches about integrating PIRPOSAL STEM strategy with junior secondary biological experiment class in the city from the China Greater Bay Area. This study tries to find out how teachers and students perceive the inquiry-based STEM integrating into biological experiment class and whether the inquiry-based STEM teaching strategy can influence students' biological experiment learning outcome. This study tries to address the problems that nowadays the biological experiment class cannot activate students' inquiry thinking ability. By integrating STEM and biological experiment class, students' biological academic performance, learning interest and self-regulation are expected to be improved.

Using STEM Toolkits to Support Young Children's Spatial Learning

2 Dec 2020 | 14:20-14:40

Xinyun HU

The Education University of Hong Kong

Yutong LIANG

The Education University of Hong Kong

Yahan HAI

The Education University of Hong Kong

Abstract

This study aims to develop STEM toolkits to improve spatial learning in the early years. The Pedagogical Play-Framework (Edwards, Cutter-Mackenzie, Moore, & Boyd, 2017) was adopted as a conceptual framework to guide teachers in designing STEM toolkits to support children's spatial skills. Design-based research was applied to investigate in-service teachers' pedagogical practice. The results of the first stage showed that teachers' lack of confidence and pedagogical approaches to spatial learning were barriers to design practical toolkits and activities, which matched with the development of children. In the second stage, a professional development program, including pedagogical play-framework and cutting-edge digital technology recourses related to spatial learning, guided teachers to design STEM toolkits and activity plans. For example, involving Google Maps to help children establish a connection between digital technology and real-life. This study also promotes the ways of integrating innovative digital technologies in STEM activities to improve children's spatial skills, including using digital maps, digital cameras, tablets, and APPs. Findings showed that: 1) with consideration of teachers' experiences and children's learning needs, practical STEM toolkits and digital technologies created opportunities or platform of facilitating children's spatial skills especially in the activities of navigation, map reading, and map creation; 2) children's spatial skills could be fostered and enhanced by STEM toolkits so that they gained the ability to understand connections of maps and real-life, developing spatial languages using, recognizing symbols and directions, acquiring the ability to solve travel-related problems in daily life and inspiring their interests towards the world.



Detailed Information of Parallel Sessions

Teacher Education and Development

Action Research: Applying Design-thinking in Transferring Western Teaching Practices to Indigenous Teachers

3 Dec 2020 | 10:45-11:05

Qian WANG

Xi'an Jiaotong-Liverpool University

Jiajun LIU

Xi'an Jiaotong-Liverpool University

Haibo GU

Xi'an Jiaotong-Liverpool University



Abstract

A critical challenge in China's higher education reform is finding a contextually-sensible professional development model to localize advanced western pedagogical practices. The majority of the indigenous teachers grew up with only the lecturing-style learning experience. They also have limited access to gain the first-hand experience in western teaching performances. When the indigenous teachers attempt to move away from lecturing, they are confused and have many unanswered questions. They do not know how to promote higher-order thinking. Without constructive support, these indigenous teachers find it challenging to implement advanced pedagogical theories into practice. This paper explores how to support indigenous teachers by integrating the design-thinking approach in professional development. Lesson plans from 130 indigenous teachers were reviewed in light of the action research approach before the workshop. Post-workshop, 48 participants completed a survey to evaluate the effectiveness of the workshop's learning. The findings reveal that the design-thinking method enhances knowledge transfer in higher education teachers' professional development, and using a lesson-design-template prompts the indigenous teachers to take action. While western trainers typically denounce utilizing a template, our findings indicate that such a perspective overlooks the local social-cultural phenomenon. Dismissing the use of template creates barriers for indigenous teachers to try on unfamiliar teaching practices. Findings of this study hold important practical implications to fulfill the gap in transferring advanced pedagogical theories to indigenous teacher development practices.

Constructing the Professional Identity of STEM Teacher in Hong Kong: A Transition for STEM Education Professionalism

3 Dec 2020 | 11:25-11:45

Derek Wai Sun CHUN

The Education University of Hong Kong

Siu Ho YAU

The Education University of Hong Kong

Hei Hang Hayes TANG

The Education University of Hong Kong

Abstract

In Hong Kong, STEM education has become timely only since 2016 when the government launched the related policy initiatives which impacted the education practices substantially. Particularly, learning in STEM domains has often consisted of memorization of facts devoid of deep connection, separated from life and often failing to integrate the STEM disciplines. Hence, STEM learning is urged to take place in an environment with more attention to different modes of communicating and meaning making. Individuals are required to make meaning and find ways to create personal connections to deeply internalize this knowledge. The investigations, sense-making, creativity, representation and communication of STEM-related ideas are all conducted and connected with human implications of meaningfulness. In this connection, this paper will report the study based on constructivist narrative approach (as cross-case studies) of 3 pre-service teachers majoring in STEM-based programme at teacher training institutes in Hong Kong and 3 in-service STEM teachers. The empirical study will purpose to address three research questions within STEM professional teacher identity perspective: (1) What STEM teacher should be look like and mean to them? (2) What are the factors which construct the STEM teacher identity? (3) What are the needs for professional training of STEM teachers and implications for teacher education? Empirical findings from this study will inform the implications on the context of STEM teacher identity, career and life planning education with STEM-related career aspirations and the professionalism growth of STEM teacher in Hong Kong.

Developing Metacognitive Teaching Skills Through a Tripartite School Partnership Model

2 Dec 2020 | 14:20-14:40

Eric C K CHENG

The Education University of Hong Kong

Abstract

This presentation will report a study for enhancing pre-service teachers' metacognitive teaching competencies through a tripartite school partnership model with a view to tackling the impacts and challenges created by the Learning to Learn 2.0+ curriculum. Since the introduction of the *Learning to Learn 2.0+* curriculum document in Hong Kong, metacognitive teaching has come to the forefront as an innovative research agenda in teacher education. The key concept underpinning *Learning to Learn 2.0+* is that of teachers developing students' generic skills including decision making, planning, and problem solving. All these skills can be conceptualized as metacognitive skills. A metacognitive teaching framework includes thinking aloud, refining learning strategy use, letting strategy use gel, and self-assessing and setting goals were adopted as the theoretical framework of the study. The pre-service teachers of this study were equipped with such metacognitive teaching strategies and skills through lesson implementation in the partnership schools. Pre-post tests were conducted to examine the enhancement of the metacognitive teaching abilities of pre-service teachers. Results of the study show that providing an authentic environment and consultative support to the pre-service teachers can help them to master metacognitive teaching skills effectively. A training guide for metacognitive teaching were developed for pre-service teachers and applied in teacher education programme. A tripartite school partnership model consists of course instructors, teachers from partnership schools and our pre-service teacher were developed to provide an authentic learning environment to enhance the metacognitive teaching competence of our pre-service teachers.



Global Citizenship and Initial Teacher Education in an Asian Global City: Diverse Conceptions and Pedagogic Implications

3 Dec 2020 | 11:45-12:05

Hei Hang Hayes TANG

The Education University of Hong Kong



Abstract

This paper examines the diverse conceptions and global citizenship (GC) and pedagogic implications for initial teacher education in Hong Kong, an Asian 'global city'. It focuses on the empirical example of the Education University of Hong Kong, the largest provider of teacher education in Hong Kong. Recently, the Education University of Hong Kong has increased more global or transnational character of teacher education through provision of extensive international experiential learning programmes and GC-related courses. The study employed the research methods including (1) documentary research of the GC-related courses and their curriculum framework, (2) professional interviews with instructors of GC-related courses (N=12) and (3) pre-service teachers' reflections on their learning experiences through in-depth interviews (N=27), supplemented by the survey of the Global Citizenship Scale. The research found that instructors have different objectives in teaching GC in their courses, ranging from cultivating students' critical thinking (reflecting both positive and negative sides of globalization), to introducing the humanistic dimension of GC (such as tolerating cultural and national differences) and practising GC for progress in Hong Kong society. Students in general showed awareness about global issues and high global competence, with open minds and communication skills to engage in intercultural interaction with people from different countries. The key findings of the study align with the literature that GC encompasses multiple agendas and ideologies, thus makes GC education complex. Lastly, this paper proposes a cohesive framework that democratically captures the varied understandings, discourses and conceptions of GC.

The Impact of Online Training in Reflective Teaching and Classroom Observation on Pre-service Teachers' Self-efficacy, Pedagogical Content Knowledge and Practicum Practice: A Quasi-Experimental Study

2 Dec 2020 | 11:05-11:25

Ye WANG

The Education University of Hong Kong



James KO

The Education University of Hong Kong

Abstract

Building capacities with pedagogical content knowledge (PCK) as reflections of teachers' understanding and transformations of the content knowledge is crucial for the development of teachers' self-efficacy as a measure of teaching confidence and expected to be positively associated with the levels of PCK. Some research has been studied peer dialogues in a virtual learning environment of pre-service teachers on practical issues in teaching reflected different depths of influences of teacher education and practicum. However, little empirical research demonstrated the effects of training on reflective teaching and classroom observation on pre-service teachers' self-efficacy, PCK, and teaching performance. This study adopted a quasi-experimental research design with mixed methods to examine the effects of online training. A sample of 97 pre-service teachers in a teacher education university in northern China was recruited and randomly assigned to experimental conditions with varied training sequence or no training as the control. The tests administered to assess PCK did not show any results favoring the groups with online training. The survey results showed that pre-service teachers' self-efficacy significantly increased after the online training, regardless of conditions. The text mining results of pre-service teachers' reflection logs indicated significantly more matching keywords in the experimental group, suggesting more profound thoughts. The analysis of classroom observation is still in progress, but pre-service teachers indicated that they got benefit from the online training in post-practicum interviews. The future research could extend the length of online training for pre-service teachers to have sufficient time to develop PCK.

Increasing Cultural Sensitivity Among Pre-service Teachers in Hong Kong

2 Dec 2020 | 14:40-15:00

Yen Na YUM

The Education University of Hong Kong

Da JIANG

The Education University of Hong Kong

Rebecca Y M CHEUNG

The Education University of Hong Kong



Abstract

According to recent census figures, the number of ethnic minority and non-local Chinese youths has doubled from 27,322 in 2001 to 42,644 in 2011, many of whom are receiving secondary or tertiary education. Despite efforts in promoting diversity, equality, and cultural sensitivity, stigma towards ethnic and cultural minorities remains common in the local context. Minority members' negative experiences give rise to stress and poorer well-being. Within the existing local teacher education curriculum, there are general education courses that focus on multicultural and race issues. However, they are elective courses and engage a relatively small number of students. We believe basic aptitude in multiculturalism should be cultivated in all student teachers. As such, this intervention study was conducted to enrich student teachers' training to manage diversity in school setting. The intervention involved a three-hour guest lecture, a three-hour e-learning session, and a three-hour multicultural discovery tour. Participants were pre-service teachers from five undergraduate courses at a local University. Following the intervention, the participating course lecturers commented that the intervention boosted multicultural competencies in preservice teachers innovatively. In addition, 100% of the multicultural tour participants agreed that their learning performance has improved through the activity, and that they would continue to apply the knowledge in the future. Based on these findings, it is recommended that similar activities should be incorporated in the teacher education curriculum in Hong Kong.

The Influence of Participating in Educational Research on Teaching Expertise Development

3 Dec 2020 | 11:05-11:25

Yu LIU

The Chinese University of Hong Kong



Abstract

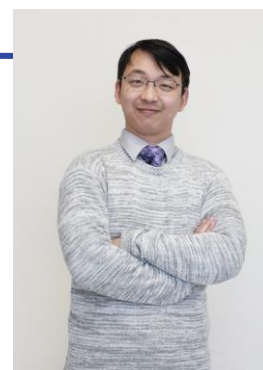
Participating in the educational research is a crucial way for the professional development of K12 teachers. Therefore, how these teachers carry out research projects, how the research process effects on teachers' teaching expertise, and what factors affect their development worth being analyzed. Based on the organizational learning and situated learning theory, this study takes a middle school in Beijing as a case, collecting data by observations, interviews and documents. By content analysis, it reveals that teachers generally feel stress and energy-insufficient, which leads to psychological torment and physical fatigue in the process of researching, but they also gain a sense of achievement. Participating in research generally promotes teachers' teaching expertise by complementing supplementary knowledge, strengthening awareness of paying attention to students' thinking ability, helping to evaluate feedback effectively, and to stimulate students' interest in learning. External and internal factors mainly affect the teacher's behavior and psychology when conducting research. The external factors (content, professional environment, and key figures) contribute as an inspiration, guidance and supervision. The internal factors (personality, cognitive, experience and competence) dominate how teachers understand and identify the research. In order to promote teacher learning, it needs to unleash the potential of teachers' initiative, to use scientific and reasonable methods for team building and accountability arrangements in the school community.

Interactive Mathematics Lessons by Scratch

3 Dec 2020 | 12:25-12:45

Methew MAU

The Education University of Hong Kong



Abstract

Scratch is a visual programming tools that is widely used in many lessons. While many of the lessons use the coding features of Scratch, teachers may also use the interactive features in their lessons. In a course for in-service primary school teachers, on the use of technology for the school-based learning and teaching, teachers had an experience on how Scratch can be used to facilitate learning. Starting from no programming history, teachers spent 3 hours each on 4 topics including Take-Away Model, The Four Operations, Divisibilities, and Area of Simple Figures, via step-by-step procedures on setting up animations within the theme that would attract students, and with the interaction responses such as text and sound, they successfully handled the use of Scratch and could design and make their lessons perfect to their students. The teachers set up cartoons to demonstrate topics in their own teaching styles; the teachers made assessment tasks with hints for the students to work on after school; the teachers made games for students in particular with special learning needs. While teachers suggest learning should be extended to the second and the third classroom, with this easy-to-learn programming language, teachers could now facilitate learning of students by the attractive school-based games, which focus on particular topics the teachers had selected.

Linking Humble Leadership to Teachers' Knowledge Sharing in Professional Learning Communities: A Serial Mediation of Psychological Safety and Psychological Empowerment

2 Dec 2020 | 13:00-13:20

Yun QU

Beijing Normal University

Abstract

教研組作為集教學、科研、管理為一體的基層組織，長期在我國基礎教育領域中扮演著重要的角色。其活動的基本形式是組織教師進行教學研究工作，總結、交流教學經驗，以有效提高教師業務水平、增強教育品質。為了滿足教研組的職能需要，作為教研組實際負責人的教研組長往往發揮著重要作用。本研究為探討教研組長謙遜領導對組內教師知識共享行為的影響及其作用機制，採用謙遜領導量表、心理安全量表、心理授權量表和知識共用量表對北京、河北、重慶、貴州等地 526 名中小學教師進行問卷調查。研究結果顯示：(1)謙遜領導正向預測知識共用。(2)心理安全 and 心理授權在謙遜領導和知識共用之間起仲介作用，且該仲介作用包含三條路徑：一是心理安全的單獨仲介作用；二是心理授權的單獨仲介作用；三是心理安全 and 心理授權的鏈式仲介作用。

On the Teaching Practice of Teacher Educators from the Perspective of Embodied Cognition Theory

2 Dec 2020 | 13:20-13:40

Qiaohui LIU

Beijing Normal University

Abstract

教師教育者作為教師之教師，其教學實踐不僅直接影響師範生學習，更深刻影響著這些未來教師的教學理念與實踐。但當前教師教育者的教學存在偏重知識傳輸，忽視師範生主體性參與等問題。具身認知理論凸顯身體在認知中的主體性地位。圍繞具身認知理論的特徵透視教師教育者的教學實踐，提出教師教育者的教學應是具身性教學，注重解放與激活師範生身體；應是情境性教學，注重運用多模態教學法創設具身情境；應是隱喻性教學，關注對師範生身體隱喻的捕捉與評價。基於具身教學理念，選取北京某高校 20 名教育碩士為研究對象，設計並實施 6 次具身學習主題課程，通過收集視頻圖像資料及學生課後訪談資料，運用內容分析法、話語分析法探究具身教學觸發了師範生在身體、情感、認知、精神等層面的何種體驗、洞見或收穫，從而反思具身教學的實效，以期尋求突破傳統認知理論下教師教育積弊的有效路徑，促使具身認知理論轉化為改進教師教育者教學實踐的源動力。



Pedagogical Practices in Inclusive Classroom

3 Dec 2020 | 12:05-12:25

Tang Wee TEO

Nanyang Technological University

Ching Yee PUA

Nanyang Technological University

Abstract

Existing literature about pedagogical practices generally refer to them as a set of skills informed by knowledge. However, 'pedagogical practices', as a construct, lacks theorising. In this paper, we derive at a definition of pedagogical practices that underscores the spirit of inclusivity. Specifically, we have stated, "Pedagogical practices in inclusive education contexts encompasses the literal and symbolic moves, articulations, and objects, premised on a set of personal and professional attributes that value difference as the driver for the provision of education for all and for whole." This conception of pedagogical practices is premised on our case studies of inclusive science classrooms in Singapore primary schools. An event-oriented inquiry into three lesson videos into inclusive science classrooms were conducted. Prescriptive and emergent coding led to the identification of nine types of pedagogical practices adapted by the teachers during the lessons to attend to the needs of students with dyslexia. The findings also show that the same enacted pedagogical practices led to different outcomes. A total of nine pedagogical practices were adapted by the teachers. Nuances to outcomes of enacting the same pedagogical practices were also found and discussed. In the paper, we discuss how the pedagogical practices can be engaged to enhance the reflexivity of the teachers in inclusive classrooms.

Promoting Digital Citizenship Education in Hong Kong Secondary Schools: A Teaching Study on Supporting Schools in Professional Development

3 Dec 2020 | 16:55-17:15

Eric King Man CHONG

The Education University of Hong Kong

Frank Shun Shing PAO

The Education University of Hong Kong

Lawrence Ka Ki HO

The Education University of Hong Kong

May Mei Yee WONG

The Education University of Hong Kong

Vincent Wan Suen CHENG

The Education University of Hong Kong

Karen Man Yee LEE

The Education University of Hong Kong



Abstract

This project aims at promoting the idea and implementation of digital citizenship education to Hong Kong schools and supporting in-serve teachers in professional development. Twenty teacher participants from seven local secondary schools joined the project and attended our 6-sessions (9 hours) of professional development training workshops in the academic year of 2019/2020. The training workshops delivered digital citizenship education framework and related concepts and teaching methods to the teachers, including digital citizenship, media literacy, digital commerce, digital footprint, digital etiquette, and cyberbullying. Our team also supported teachers to design their school-based digital citizenship curriculum for trial teaching and discussion of feasible pedagogies after the training workshops. After conducting quantitative data analysis before and after the training workshops, the result found that over 90% of teachers are satisfied with the training workshops. Moreover, there was a significant statistical difference in their teaching of digital citizenship on digital law, digital commerce, and digital security and safety dimensions between pre and post-test. They are more willing to teach these topics after the training. Facing the challenges caused by COVID-19 in 2020, however, all Hong Kong schools were forced to close down. Therefore, our class observation has been delayed but we still found that teachers can utilize different online learning activities to implement digital citizenship education, though some teachers also reported that they were not confident to teach certain aspects such as legal dimension. This project suggests a need of equipping teachers' understanding and teaching of digital citizenship education, and revisiting the relevant curriculum.

Putting the Dreams into Practice: Multi-dimensional Understanding and Reconstruction of Young Teachers' Professional Identity_A Case Study of a Middle School Chemistry Teacher

2 Dec 2020 | 11:25-11:45

Jun ZHANG

Beijing Normal University

Qiujin DONG

Beijing Normal University

Zhaoxin WANG

Beijing Normal University

Abstract

At Present, the construction of Chinese teachers' identity shows more consistent with the changes of the times. On the one hand, educational habits affect the construction of teachers' identity. As a teachers of the subject with more examinations, who need to be proficient in teaching materials, good at teaching, familiar with test questions, and well prepare for exams. He must be not only giving vivid lectures, but also allowing students to get good remarks, then they can be regarded as qualified teacher. Therefore, new teachers can make use of the advantages of the information on net, widely collect teaching materials, testing data, comprehend teaching content, while the construction of teachers' identity is deeply influenced by their own educational experience, and presents a typical dependence way. On the other hand, with the development of information technology, cyberspace has changed from virtual to entity, which provides teachers with a broader communication space and more dialogues to other people. Teachers can discuss with anyone who in the same network professional community equally, as to they can look back on themselves, understand the gap and make progress themselves. Self-media carriers such as network community, WeChat etc. provide much discourse to promote teachers' professional development. It is so convenient for teachers to express their educational ideas and publish subject professional suggestions on social and public events. And it is also helpful for teachers to realize the reconstruction of multiple roles.



Research on the Influence of School Culture on Job Satisfaction

2 Dec 2020 | 13:40-14:00

Chunxue ZHAO

Beijing Normal University

Abstract

學校文化與教師工作滿意度作為學校管理實踐中的重要領域,有助於提升學校管理品質。學校文化影響教師的認知和價值觀取向,而教師工作滿意度影響教師工作積極性及教師對學校的承諾,因而關注學校文化與教師工作滿意度的關係具有重要意義。本研究以北京市的小學為個案,採取分層整群抽樣的方法選取 31 所小學發放問卷,並採用多層線性模型分析學校文化對教師工作滿意度的影響。研究結果如下:第一,教師工作滿意度存在校際差異,不同學校之間教師工作滿意度的差異比較大,約佔總差異的 20.93%;第二,教師的性別、所教年級以及教齡對教師工作滿意度有顯著影響;第三,教師工作滿意度與學校文化的四個維度:參與性、一致性、適應性、發展願景呈顯著正相關。由此可見,教師工作滿意度不僅受到教師個體特徵的影響,還與學校文化相關。因此,為提高教師工作滿意度,可以從學校文化層面進行改進。

Study on Working Time and Workload of Rural Teachers

2 Dec 2020 | 10:10-10:30

Songli WANG

Beijing Normal University

Abstract

Working time is an important indicator of teachers' workload, which affects teachers' professional development, physical and mental health and school reform and development. The working time and structure of rural teachers are of great significance to the construction of rural teachers. At present, there are few large-scale investigations and studies on rural teachers' working time. This paper uses the data of 1756 teachers from 76 schools in 5 provinces and cities to analyze the distribution of working time and workload of rural teachers. Through the teachers comparison of the international perspective, urban and rural school, primary and secondary school, different types of schools and different characteristics, it is found that rural teachers have a longer preparation time, and more time for school management and daily administration, and that teachers in charge of class and teachers in teaching sites have a larger workload. Based on the Job Demand-Resources Model and the theory of job time heterogeneity, this paper puts forward some suggestions to strengthen the resource support for rural teachers in charge of class and teachers in the teaching sites, to reduce the workload of school management and administrative affairs of rural teachers to ensure more professional independent time, and to pay attention to rural teachers' cooperation in teaching and research to improve their preparation and class quality.



Teaching Abroad during Initial Teacher Education: The Effects as Perceived by Recently Qualified Teachers

2 Dec 2020 | 14:00-14:20

Benjamin Luke MOORHOUSE

Hong Kong Baptist University

Abstract

Teaching abroad experiences, where pre-service teachers spend a period of time teaching in a foreign country, are becoming increasingly popular in initial teacher education. They have been found to benefit the sojourners both personally and professionally: helping them develop knowledge and skills required for teaching in the 21st century. However, the studies to date have explored the impact of such experiences during or immediately after the sojourn. Therefore the long term effects on participants' readiness for teaching are not known. This study, through collecting and analysing reflective writings of twelve recently graduated teachers who participated in a teaching abroad experience during their initial teacher education, explores the long term effects of such experiences on teachers' readiness for teaching. The findings suggest that teachers do believe such experiences enhance their professional knowledge, skills and personal attributes for teaching, therefore increasing their readiness for their current roles. The teachers attributed this to the additional teaching opportunity such experiences provide, the unfamiliar context requiring them to engage more deeply with principles of effective teaching and the opportunity to share and exchange pedagogical ideas with teachers in the host school. Suggests for the development and implementation of such experiences in teacher education are provided.



International Conference on Learning and Teaching

The Teacher's Teaching is not to Cross the River by Feeling the Stone ——Self Study on the Transformation of Theoretical Knowledge into Teachers' Practical Knowledge

2 Dec 2020 | 09:50-10:10

Xuehong ZOU
Beijing Normal University

Abstract

教師實踐性知識是溝通理論與教育實踐的橋樑，那麼教師是如何運用理論的？教師將理論知識轉化為其實踐性知識的過程是怎樣的？通過「自我研究」來詮釋理論知識轉化為教師實踐性知識的歷程是教師教育研究中一項有意義的嘗試。研究中的「我」是一位在北京工作了八年的小學數學教師，在進入工作崗位之前學習了七年的教育理論知識(本科階段所學專業是教育學，碩士研究生階段所學專業是教師教育)。通過一位小學數學教師的自我研究，可以發現教師將理論轉化為其實踐性知識的歷程可分為"對理論的否定期"、"理論浮現期"、"理論與實踐的有意擬合期"、"尋求更深層的理論學習期"四個階段，在每一個階段教師對理論的接納程度和轉化情況都呈現出不同的特點。



The Trajectory of Teacher Competence in the Development of Chinese Teacher Education

2 Dec 2020 | 10:45-11:05

Xiaojing YAN
Monash University

Abstract

Teacher competence is related to high-quality teachers and teaching, which involves specifying the competencies thought to be associated with effective teaching and development of teachers. In the research I consider teacher competence as the focus to track its changes in Chinese teacher education policies development from 1949 to 2019. Inductive method was employed in the research. 3 laws and 55 policies were documents for analysis. There are five periods for describe teacher competences' changes in China from 1949 to 2019. Firstly, it was "political and professional competence period" from 1949 to 1984, political competence was the key content. Secondly, it was "development of teachers' professionalization" period from 1985 to 1995, teacher was confirmed as the profession. Thirdly, from 1996 to 2000, the morality of teachers is highlighted. Fourthly, from 2001 to 2011, professional training guaranteed teachers' quality and professional knowledge and skills were focused. Fifthly, teacher's standardization trends from 2012 to now, it provides a guideline for teacher competence. Between different stages, the key teacher education policies are evidences for dividing and transforming different teacher competences. In the five periods, the morality is always at the priority and Chinese teachers' professionalization has been developing gradually. Therefore, the research presents a whole picture of teacher competence trends in China during the 70 years. The changes of teacher competence in national policies provide a framework for quality teachers in China, but those scatted teacher competence in policies should be organized and developed with the changes of time.



Detailed Information of Parallel Sessions

Interdisciplinary Studies focus on Education for Sustainable Development

Education for Sustainable Development (ESD) as an Approach to Nurturing Liberally Educated Citizens

4 Dec 2020 | 09:50-10:10

Chong XIAO
Lingnan University

Priyanka SEN
Lingnan University

Abstract

As an educational philosophy, liberal arts (LA) has been adopted at the tertiary level with the aim to cultivate a responsive citizenry who contributes to human and the sustainable development of society. In Asia, because of the continuous negotiation among LA values, neoliberal ideologies, and cultural-political agendas, LA education articulates a particular brand of citizenship, which is featured with a tolerant global identity, a good moral habit, and strong commitment to the sustainable communities. In a broad sense, contemporary LA education is directed by an orientation of sustainability. To share the good practices in organizing ESD in a LA context, this paper introduces a qualitative case study of a Service-Learning course. Data were collected through semi-structured interviews with students from three runs of the same course as well as reviewing documents including course outlines, class handouts, and students' assignments. It is argued that ESD could be best organized in a LA context by combining community-based experiential learning, interdisciplinary inquiry-based group project, and international course connection. Students can be successfully socialized into citizens who care about both the global and local communities, open to various values and cultures, able to learn through interaction with people holding different expertise and experience, and willing to engage in the efforts in advancing common good of human beings. This case study verifies ESD as an effective approach to the multi-leveled and multi-dimension model of contemporary citizenship. It also enriches the literature on liberal learning in such a globalized and specialized higher education context in Asia.



Disseminating the Findings of Teaching Development Grant: Measuring Students' Well-being Across Three Collaborative Positive and Values Education Courses Using an Integrated Well-being Model

3 Dec 2020 | 15:20-15:40

Junjun CHEN

The Education University of Hong Kong

Daniel Hung Kay CHOW

The Education University of Hong Kong

Abstract

This project investigated students' well-being at the Education University of Hong Kong with the goals of enhancing their level of well-being and their competence at meeting challenges in their personal and study life. This was achieved by creating a well-being e-portfolio in the Sway system for students selected from three collaborative Positive and Values Education (PAVE) courses using an integrated well-being model. The project was designed using a mixed-method approach. Three groups were selected from each PAVE course. Different kinds of qualitative and quantitative data were collected. The qualitative data consisted of pre- and post-interviews and e-portfolios. 24 students (8*3) in the three courses were randomly selected for two rounds of individual interviews. The three journals in the e-portfolios of all students in the three groups were analyzed. The quantitative data were comprised of pre- and post-survey questionnaires on well-being. These two kinds of data were integrated and enhance each other in terms of student well-being. The preliminary result showed that students in the interviews reported an increase of their well-being after these three PAVE courses. This was also demonstrated in their journals in the e-portfolios. The mean score of student well-being between pre- and post-tests significantly increased but the change in growth was not statistically significant.

Examining the Impact of Teaching Instructions on Young Children's Visual and Creative Thinking: A Vygotskian Perspective

4 Dec 2020 | 10:30-10:50

Yasmin FONG

Education University of Hong Kong

James KO

Education University of Hong Kong

Abstract

Creating artwork is incorporated in early childhood classrooms through activities, and its underlying theoretical mechanism and assumed potential to promote creativity is often assumed with little research and supporting evidence. According to Vygotsky, creative activities can promote imagination as they encourage children to go beyond the boundaries of memory recall and the act of mimicking experiences as the reproductive activity does. Furthermore, the social constructivist theory makes assumptions that social interactions with peers and adults provide richer opportunities in facilitating learning in comparison to exploring by oneself, therefore suggesting that group activities could promote creativity. In regards to art activities, McKim theorised visual thinking as a development process of generating visual imageries that we see, imagine, and create. Hence, emphasising on visual sensory and perception as a key contributor to one's creative thinking potential, and thus, the role of an educator becomes crucial in providing stimulating visual materials and quality instructions to young learners in the classroom. Accordingly, experiments are designed to test the relative benefits of teacher instruction and social peer conditions in promoting creative and visual thinking through mixed media art activities. Consensus evaluations will be used to measure the artworks produced by the children from each activity to gauge their involvement and skill in the experiment activities. Further measures on children's social orientation and peer-play behaviours are also collected to explore their potential influences. The results will contribute to the learning mechanism of art and the dilemma of teacher instruction in teaching art in early childhood settings.



Improving Students' Understanding of Patients through Implementing Interprofessional Service Learning Activities in the Community

3 Dec 2020 | 15:00-15:20

Vivian LEE

The Chinese University of Hong Kong

Paul LAI

The Chinese University of Hong Kong

Samuel WONG

The Chinese University of Hong Kong

Anna LO

The Chinese University of Hong Kong

Enoch NG

The Chinese University of Hong Kong

Janita CHAU

The Chinese University of Hong Kong

Wallace CHAN

The Chinese University of Hong Kong

Felix FONG

The Chinese University of Hong Kong



Abstract

We implemented an inter-professional (IP) service learning community outreach project called BASIC (Broad Antimicrobial-resistance Service-learning & Intervention in the Community) from February 2018 to January 2019. The objective was to investigate the learning outcomes and impact of inter-professional service learning program for pre licensure health professional and social work students. The project involved 297 students of different disciplines across Faculty of Medicine and Department of Social Work in The Chinese University of Hong Kong. Interprofessional workshops were organized and teachers from each discipline prepared self learning materials to echo the project themes: geriatric care, disease prevention, antimicrobial resistance, and patient communication. A total of 48 sessions of community outreach service and two health fairs within the project period. Majority of the service beneficiaries were older adults (4007 subjects, 95%), while others were adults and minors (218 subjects, 5%). We conducted pre and post project learning outcome evaluation among the students, and we found significant improvements among the students' understanding on following areas : geriatric care (+18.6%, $p < 0.001$); medication safety (+15%, $p < 0.001$); elders' needs (+12.9%, $p < 0.001$); antimicrobial resistance (+13%, $p < 0.001$). 91% of the students ($n=148$) responded that the project improved their attitude and concept of interprofessional collaboration. 81% of them enjoyed helping patient with their physical and psychological needs while 90 % of them stated that they enjoyed collaborating with peers of other disciplines. Real-world service learning activities are essential in interprofessional education. They are helpful for the growth of healthcare students and the development of high quality patient.

Interdisciplinary Research-led Learning Course Design and Implementation

2 Dec 2020 | 14:40-15:00

Xiaojun ZHANG

Xi'an Jiaotong-Liverpool University

Zhulin HAN

Xi'an Jiaotong-Liverpool University

Jia GOU

Xi'an Jiaotong-Liverpool University

Abstract

大學中的可持續發展教育是以培養學生的可持續發展意識，和提升學生解決社會中真實存在的可持續問題的能力為核心的。而要培養這種意識和能力，學生需要具備跨學科思維，需要深入體驗社會真實場景，並以真實問題驅動的項目來訓練學生在現象中發現並細化問題和最終解決問題的能力。本文運用行動研究的方法，通過分析西交利物浦大學聯合國內其它三所不同類型院校設計並實施的一門以可持續發展為主題的跨學科社會創新課程的案例，從而探討與分析在大學管理層面如何通過機制創新讓跨學科的教師團隊更為有效地支持學生進行可持續發展學習專案的探究；以及如何通過研究導向的學習流程設計系統培養學生解決社會問題的能力，以及這類課程如何在不同類型的學校中落地實施。



Merge with Nature: Involve More Children in Outdoor Environmental Education

4 Dec 2020 | 10:10-10:30

Xinshan LYU

Beijing Normal University

Abstract

Based on the background, basic principles, development status and existing misunderstandings of outdoor environmental education, this paper proposes the importance of environmental awareness and how outdoor environmental education can surpass the traditional classroom teaching mode. First, I recommend "experience" and "dialogue" as the teaching methods to find the interaction between human and nature. Educational activities must be combined with practice and reflection, such as project-based learning, collective nature observation and report writing. Then, educators should flexibly apply different educational theories to provide specific practice of outdoor environmental education. *Liberal environmental education* emphasizes organized educational activities to enhance students' understanding and appreciation of nature by learning, such as botanical garden visits and group environmental projects. *Progressive environmental education* emphasizes experiencing the environment directly and designing some mission-oriented activities such as field survival. *Humanist environmental education* emphasizes self-awareness and informal education. This paper also analyzes how educators use global perspective and indigenous science to carry out outdoor environmental education through some activities like international nature experience programs and entering local nature reserves. The aim of outdoor environmental education is not only teaching students to protect the environment, but to respect biological diversity and cultural diversity. By participating in a series of outdoor educational activities, students could balance the relation between economic development and environmental protection by investigating the situation of the environment, and focus on the intrinsic value of each organism. Finally, this paper discusses the relationship between environmental education and sustainable development by analyzing the ecology-centered view and environmental justice.



Partnership, Participatory, Drama and Art-based Approaches for Business Education: A Case Study in China

3 Dec 2020 | 16:35-16:55

Tung Hiu HON

The Open University of Hong Kong

Abstract

Numerous scholars have done several research regarding using Partnership, Participatory, Drama and Art-based approaches, for the university students with medicine and education majors in Australian higher institutes. These research objectives were used for the tertiary teaching enhancement in general to improve pedagogy and knowledge acquisition. Hence, It will be useful to testify the feasibility of using Partnership, Participatory, Drama and Arts-based approaches in Business studies of tertiary education, as most of the subjects related to business are about human cooperation, communication and organizational management. This paper is a review on an immersion program of Tsinghua University, China regarding Innovation and Entrepreneurship to verify the advantages of using activities with these approaches during the study and to give an in-depth explanation towards the relationship between the activities and business training, in order to encourage practicing these approaches in the future corporate training. This is a qualitative research conducted with randomly selected participants from the business program. A semi-structured interview is used for obtaining the views and opinions from each research subject with specific descriptions. The overall results are positive for enhancing the quality of this business study through the approaches and the authenticity towards activities is the key. This can be seemed as a pioneering attempt to understand how these activities can be implemented on Chinese students in China for business studies. It should inspire other researchers to use various research methodologies to testify the workability of these approaches on Chinese students majored in business in the future.



Using the Bluetooth Low Energy (BLE) Positioning Technology to Study the Relationship between Students' Seating Location and their Academic Performances

3 Dec 2020 | 15:40-16:00

Ka Long CHAN

The Hong Kong Polytechnic University

Man Sing WONG

The Hong Kong Polytechnic University

Roy KAM

The Hong Kong Polytechnic University

Abstract

Mixed findings are observed in the relationships between students' seating location and their academic performances in university education; and few studies, if not none, had used the BLE positioning technology for that. A standalone system for use in conjunction with iBeacon protocol is being developed. The system is named as ATLAS (Augmented Teaching and Learning Advancement System). The mobile app is developed to allow for the utilization of iBeacon-based system to facilitate location sensitive functions in the forms of, for example, question and answer, attendance checking, seating location measurement for enhancing teaching and learning outcomes. Linear regression models were applied to assess the effect of seating students' position on their academic performances across different academic disciplines. A total of 182 participants were participated in this study. There was statistically significant simple effect of students' seating location ($\beta = 0.40$, $t = -3.32$, $p = .001$) and academic disciplines ($\beta = 0.56$, $t = 2.11$, $p = .036$) on test score. Simple slope analysis revealed that a significant relationship is noted between students' seating location and test score among soft subjects ($\beta = 0.60$, $t = -3.92$, $p = .018$). There is empirical evidence to support that academic variables such as academic disciplines moderate the effect of students' seating location on academic performance in this study.



Detailed Information of Parallel Sessions Learning and Teaching in the 21st Century

Acoustic-Data-Based Pronunciation Learning and Teaching: New Methodology for Chinese as a Second Language in the 21st Century

3 Dec 2020 | 16:35-16:55

Liu SHI

The Education University of Hong Kong

Ling ZHANG

The Education University of Hong Kong

Abstract

Traditionally we used the “ear-mouth” way to improve the pronunciation accuracy of Chinese as a second language (CSL), i.e., the learners used their “ears” to perceive the Chinese pronunciation, and used their “mouths” to mimic the exemplary pronunciation by their teachers. The teachers also used their “ears” to identify the pronunciation errors of the CSL students and rectified their errors by providing a correcting example with their “mouths”. This traditional “ear-mouth” method may encounter difficulties when the pronunciation errors are subtle. The new methodology of acoustic-data-based pronunciation learning has an advantage here since acoustic data can help to reveal subtle sound difference between CSL students and native speakers more accurately and more objectively. In the 21st century, with more advanced technology, computer-assisted acoustic measurements are more convenient to be carried out, which should be more widely applied in CSL pronunciation learning and teaching. In addition, the acoustic data can provide the visualized cues of the improving directions. This study took CSL students from Thailand as an example and illustrated how to carry out assessment on CSL students’ pronunciation, conduct acoustic measurement on their tones and vowels, compare with the counterparts of the native Chinese speakers, and adjust the learning and teaching methods based on the acoustic data analysis. This new methodology can help to enhance pronunciation accuracy and efficiency for CSL learning and teaching.



Application of Text Analytics in Examining Students' Qualitative Feedback in Relation to Teaching and Learning

2 Dec 2020 | 13:20-13:40

Wai Tung KO

The University of Hong Kong

Yuk Wun CHAN

The University of Hong Kong

Maggie Yue ZHAO

The University of Hong Kong

Abstract

Background: With the advancement of machine learning technology and data science in the 21st century, alternative methods of analyzing natural language data have emerged. New text-mining techniques developed in the past decades have enabled automatic analysis of large amounts of text data. A promising direction is the use of co-occurrence information to extract semantic and thematic patterns from qualitative data. The current study aims to demonstrate the application of text analytics in students' qualitative feedback pertaining to teaching and learning. **Method:** Undergraduate students at the University of Hong Kong were asked to provide comments on the best aspects and areas of improvement of their learning experience in an annual institution-wide survey. Key themes and concepts from students' comments were extracted using an automatic text analytic tool LeximancerTM. **Results:** In the most prominent themes identified, keywords including "students", "courses", and "learning" emerged. Key findings from the text analysis were, to a great extent, in accordance with quantitative results from the same survey. Items that received the highest rating from students, like exchange experience for final-year students, were also emerged as one of the key concepts in student comments. Key concepts varied among student cohorts from different study years. **Discussion:** Using text analytics to extract key concepts and themes from text data, the present study demonstrates an efficient, evidence-based approach of analyzing students' feedback for informing teaching and learning practice. This approach appears to be promising for educators to turn data into insights for quality enhancement in higher education.

Buddhist Educational Programs: The Experience of Indian and Russian Universities

3 Dec 2020 | 16:15-16:35

Valeriy BADMAEV

Kalmyk State University

Olga MAKSIMOVA

Kalmyk State University

Abstract

Resulting from the interest in Buddhism, many universities around the world open Buddhist educational programs, aiming to present holistic view on the Buddhist values, Buddhist philosophy and its practical significance to the students. It is essential to consider Buddhism not only a religion, but also an educational system and a philosophy of education. During all stages of their historical and cultural evolution, Buddhist values above all were conveyed by educational institutions nourishing the unique educational tradition. So, Buddhist monasteries made up into educational centers in Ancient India. Later the same model of education was replicated in Tibet, Mongolia, Russia, etc. The new empiric information is introduced into scientific use, based on expert interviewing the director, dean and teachers of Karmapa International Buddhist Institute (India), and on case studies in the frame of Master of Arts program "Philosophy and culture of Buddhism" at Kalmyk State University. In addition, comparative approach was used, which afforded the opportunity to reveal the similarities and differences in educational concepts and missions of these universities. The study findings are of importance for further promotion of Buddhist educational programs and integration of religious and secular components into them. They are also important for epistemological problems solutions related to correlation between science and religion, faith and knowledge.



The Community Impacts of Service-Learning and Key Factors that Increase the Likelihood of Positive Impacts

2 Dec 2020 | 09:30-09:50

Maureen Yin Lee CHAN

The Education University of Hong Kong

Ka Hing LAU

Lingnan University

Robin Stanley SNELL

Lingnan University



Abstract

Service-learning is considered a powerful pedagogy for developing students' 21st Century skills and awareness, but research on its impact in meeting contemporary community needs has been scarce. We evaluated community impacts of diverse service-learning projects in Hong Kong and identified factors perceived to increase the likelihood of positive impacts. Semi-structured one-to-one interviews and focus group interviews were conducted with 14 representatives of NGOs or social enterprises that had hosted service-learning projects by students from local universities. Respondents reported positive impacts of service-learning that had improved the services of their organizations, in the form of tangible resources, such as books and new programmes, along with intangible resources, such as increased energy levels among staff, and improved organizational image. The positive impacts extended to end-beneficiaries, such as expanded social networks and enhanced self-esteem. Respondents also mentioned 'dark side' impacts that they attributed to: unprepared, uncommitted and/or poorly marshalled students; misalignment between course/instructor objectives and community needs; and poor synchrony between university parameters and community needs. Our emergent model identifies how positive community impacts stem from appropriate design and implementation of service-learning projects, from open communication between stakeholders about expectations and resource, and from careful preparation and marshalling of the students. We did not collect data from representatives of organizations that have discontinued their service-learning partnerships with universities, or from students and end-beneficiaries. Future research could trace impacts throughout a sustained service-learning partnership, since impacts from particular projects may reflect a history of process elements paving the way to those outcomes.

Cultivating Future Talents Through Research-led Learning and Teaching

3 Dec 2020 | 15:00-15:20

Xiaojun ZHANG

Xi'an Jiaotong- Liverpool University

Yue SU

Xi'an Jiaotong- Liverpool University

Cancan JIN

Xi'an Jiaotong- Liverpool University

Zheng HUAN

Xi'an Jiaotong- Liverpool University



Abstract

人工智慧和互聯網時代，自主學習能力、解決問題的能力及合作溝通能力等成為學生的核心競爭力。西交利物浦大學從 2009 年起開始系統探索一種新型的課程教學理念和方法：研究導向型教學，目前已經形成系統的模式在校內各學科積累大量案例，同時通過教師培訓傳播到國內近 300 所高校 7000 位老師。研究導向型教學是"以學生為中心"的教與學，目標是提升學生的學習能力、解決問題能力和團隊合作能力等。其核心是通過重新置放教學中的師生角色，重塑學習流程，來徹底激發學生對求知和自我發展的內在驅動力。研究導向型教學提倡學生研究導向的學習，教師研究導向型的教學。研究導向的學"是指學生在有趣現實問題的驅動下，通過老師的引導自主地搜索相關資料和文獻，通過團隊合作和討論，整合廣泛的知識為特定的問題提供解決方案。研究導向的教"包括教師以問題導向的課程設計，以引導學生自主學習和團隊合作而非傳授知識為核心的教學，以及如何提供過程性的回饋與支援等。

Developing an Approach to Learning Inventory (ALI) to Assess Chinese Character Writing (CCW) Motivation and Strategies in Vietnamese Students

4 Dec 2020 | 10:10-10:30

Lijing YE

The Education University of Hong Kong

Lan YANG

The Education University of Hong Kong

Yuan LIAN

The Education University of Hong Kong



Abstract

CCW is a daunting task for CSL (Chinese as a second language) learners. To aid the learning and contribute to students' language attainment, motivation and strategies are important. Motivation predicts learning efforts and strategies. Research on both motivation and learning strategies of CCW is sparse. Based on Biggs et al. (2001)'s work, a combination of both motivation and strategy can be conceptualized as a construct called Approach to Learning. According to them, motivation can be further divided to deep and surface levels. In light of Biggs' work, the purpose of this study was to develop an Approaches to Learning Inventory (ALI) to assess CCW Motivation and Strategies in Vietnamese Students. 339 CSL students from four Vietnam universities have received at least one-year Chinese training and have a certain level in Chinese with the capability to write Chinese characters. The ALI-CCW developed based on previous studies was administered among these students. EFA and CFA were performed to test the internal structure. The results support the bifactors' structure of motivation (deep vs. surface) motivation and bifactors' structure of strategies (knowledge-based strategies and indirect strategies). Cronbach's alpha values are all above .70. In addition, correlations among CCW strategies and deep motivation, and achievement are positive and statistically significant. There are negative correlations among CCW surface motivation, strategies, and achievement. The ALI of CCW can be a valuable instrument for further studies to test CSL learners' motivation, strategies and provide tailor-made instruction practices to promote deep motivation and strategies of CCW among CSL learners.

Developing Multidisciplinary & Multicultural Teams in a Digital World: Experience from Two eTournaments on the United Nations Sustainable Development Goals

3 Dec 2020 | 10:45-11:05

Martin LAU

Hong Kong Baptist University

Frankie LEUNG

Hong Kong Baptist University

Lisa LAW

Hong Kong Baptist University

Theresa KWONG

Hong Kong Baptist University

Eva Y W WONG

Hong Kong Baptist University



Abstract

The COVID-19 outbreak shows that even if we have to minimise physical contacts, we can still maintain social interaction and work together with the advent of technologies. It is recognised that the grand challenges of this century – global warming, financial crises, pandemics, etc. – require concerted efforts amongst peoples for solutions. At universities, we can mimic such scenarios by asking students to form diverse teams themselves and collaborate on projects. In the workplace, however, people with different expertise situated around the globe are often put together to accomplish goals through online means. They seldom have the luxury of picking teammates and projects. Preparing our students to contribute effectively in such teams is hence a priority. This presentation outlines a joint-institutional "CCGame Project" aiming to heighten students' multi-cultural and multi-disciplinary competences by deploying gamified learning. As part of the project, tertiary students around the world were invited to join an eTournament. They were deliberately put into teams in which all members were of diverse backgrounds and new to each other. In order to win, the teams had to complete a series of online tasks, from strategising to playing a game by answering questions on the seventeen Sustainable Development Goals (SDGs). Two runs of the eTournament were conducted in 2019 and 2020 respectively, with 243 students from 22 countries/regions registered in the first run, and 416 students from 42 countries/regions in the second. Analyses of the data collected from the eTournament, showing collaboration, and awareness of SDGs and cultural differences, will be presented.

Do We See the Way What the Students See?

2 Dec 2020 | 13:40-14:00

Amy Mei-ching TSANG

Hong Kong Baptist University



Abstract

Two-year college students want to have academic learning which is relevant and can facilitate their articulation to the senior year of a university to finish a major specific bachelor's degree. This session will explore the value and implementation of experiential learning by action research in a two-year college setting and share the successful project results. A research only semester long project in a marketing discipline is redesigned to be experiential for increased real-world connections to improve student engagement, reflections and self-confidence that leading towards increased student competitiveness for senior year academic articulation and future employment opportunities in the 21st Century. However, what we see from the good side of the project results, are they all representative to each of the individual students involved? The results from 441 participating students are not one sided. It implies that students' responses are varied towards the intended learning outcomes of the project and the minority feedback has its significance. I will illustrate the answers through the data and comments collected from the student feedback forms, formal and informal qualitative interviews, and discussion meetings. Based on those data to summarize the insights or implications on how students can learn the general education requirements at the same time be able to discover their major study interest and develop their competitiveness in a two-year community college setting. In addition, the presentation provides whether high technology, low technology, and no technology can bring up the project result insights, or the interpretation of the findings that matters.

Does Formative E-assessment Enhance Students' Learning Engagement? A Pilot Study in Hong Kong

3 Dec 2020 | 12:25-12:45

Ying Zhan

The Education University of Hong Kong

Abstract

Prior studies have highlighted the importance of General Education in reinvigorating higher education. In spite of the significant contribution of General Education, students' engagement in the course is also frequently negative. Formative e-assessment is supposed to enhance undergraduates' learning engagement due to the nature of formative assessment and the relative affordability of technology. A formative e-assessment intervention was included in General Education foundation course tutorials which used Kahoot, Mentimeter and Google+. This study adopted a quasi-experimental design to demonstrate the effectiveness of formative e-assessment intervention on student tutorial engagement in terms of cognition, emotion and behavior. At the end of one-term tutorial, two experimental groups and one control group completed a survey on course engagement and eight students from experimental groups attended two focus group interviews. The findings reveal that in general, formative e-assessment increased students' course engagement but not in a significant way. The significant change in course engagement only exists in students' sense of belonging to their group and their effort in assignments. The participants preferred Kahoot and Mentimeter to Google+ and reported some inhibiting factors in using Google+ including their unfamiliarity with it, examination-oriented learning attitudes, low course learning motivation, and time constraints.

Examining Eye-gaze Patterns of Experts and Novices in Graph Interpretation

4 Dec 2020 | 10:30-10:50

Zi Qi PEH

Nanyang Technological University

Tang Wee TEO

Nanyang Technological University

Abstract

There has been an increasing emphasis on graphical literacy as graphs are increasingly utilised as a way of representing data. Hence, the ability of students to read and interpret graphical data is of paramount importance. However, students often experience difficulties in graph interpretation, and thus have differing graphical literacy. In this study, we investigated the eye-gaze patterns of experts (science professors) and novices (science undergraduates) in graph interpretation of five multiple-choice items. The study is framed on the idea that experts and novices differ in the way they solve problems. The five graphical multiple-choice items were obtained from the science inference test instruments constructed by Teo and Goh (2019). The eye-gaze movements of participants were recorded using the Dikablis eye-tracker and were subsequently analysed using the software D-Lab 3.0. Comparison of experts and novices revealed that experts place greater focus on the question stem, while novices place greater focus on the graph itself. Further, there are differences in the approaches taken by participants in the analysis of graphical items. Experts would focus on contextual and graph data features initially before moving to cues such as options. In contrast, novices demonstrated sporadic search patterns. By studying how experts and novices attempt the graphical items, this study proposes a set of heuristics to answering graphical items. This set of heuristics can be adopted by teachers in coaching students, so as to provide better scaffolding for students when answering graphical items.

Examining the Impact of Cognitive-oriented Self-efficacy on Affecting Action-oriented Self-efficacy of Career Development of SEN Students in Hong Kong

2 Dec 2020 | 14:20-14:40

Fengzhan GAO

The Education University of Hong Kong

Lan YANG

The Education University of Hong Kong

Kuen Fung SIN

The Education University of Hong Kong



Abstract

While the short form of career development self-efficacy inventory (SF-CDSEI) has been validated in students with and without special educational needs, the relationships between the five subscales (i.e., Career goal setting, Career planning, vocational training selection, Job hunting preparation and Job hunting) have not yet been adequately explored to inform more effective practices (e.g., intervention development). Based on the Social cognitive career theory (SCCT), this study examined their relationships based on two SCCT-supported models with a new sample of secondary students with SEN (n=218). In model 1, student self-efficacy of career planning (CP) and career goal setting (CGS) were two cognitive-oriented predictors of a general action-oriented self-efficacy factor consisting of job-hunting preparation (JHP), vocational training selection (VTS) and job-hunting behavior (JHB). In model 2, JHP and VTS formed a general factor of job-hunting preparation (G-JHP), while JHB was separated. The results of model 1 showed 95% variance of action-oriented CDSEI could be explained by cognitive-oriented self-efficacy of CP and CGS with CGS as a stronger predictor ($\beta=.60$ vs. $\beta=.43$). Comparatively, model 2 showed that 90% variance of G-JHP and 87% JHB could be explained by career planning and career goal setting. But as compared to CGS ($\beta=.42$), CP ($\beta=.57$) was a stronger predictor of JHB. For G-JHP, CGS was a stronger predictor ($\beta=.68$) as compared to CP ($\beta=.32$). The results are discussed in relation to the SCCT to develop intervention programs for addressing the needs of SEN students in terms of CDSEI.

Examining the Relationships between Feedback Orientation and Learning-Related Achievement Emotions

3 Dec 2020 | 11:25-11:45

Cherry Eron FRONDOZO

The Education University of Hong Kong

Lan YANG

The Education University of Hong Kong

Abstract

Although teacher feedback is essential to student learning outcomes, students' cognitive and emotional processes involved in perceiving and interpreting feedback remain understudied. Based on Pekrun's Control-Value theory, perceptions of one's capability (control) and usefulness (value) influence students' academic emotions. This study examined how students' four aspects of feedback perceptions/feedback orientations influence their positive emotions (joy, hope and pride) and negative (hopelessness, boredom, shame, anger and anxiety) in learning. The four feedback orientations are feedback self-efficacy (perceived capability to use feedback), feedback social awareness (perceived social value of feedback), feedback accountability (perceived responsibility in seeking feedback) and feedback utility (perceived usefulness of feedback). This study tested whether the four feedback orientations are associated with learning-related academic emotions. A total of 112 Filipino university students (Female n=87, 77%) completed the Feedback Orientation Scale and the Learning-related Academic Emotions Questionnaire. The results showed the four feedback orientations are positively correlated with joy and negatively correlated with anxiety and shame. A further path analysis revealed that among the four feedback orientations, feedback self-efficacy appears the strongest predictor of positive emotions. The results suggest that promoting students' feedback self-efficacy in using their teachers' feedback might be essential in fostering positive emotions in students' learning experiences.



Experiences of Constructing Physical and Social Knowledge in Child-adult Interactions: An Experimental Study on Dialogic Teaching and Storybook Reading

3 Dec 2020 | 15:20-15:40

Xuanyi WU

The Education University of Hong Kong

James Yue On KO

The Education University of Hong Kong

Abstract

It has been believed that preschoolers in the pre-operational stage of cognitive development are not capable of logically operating conservations of measurement of length, size, and volume. However, contrary perspectives challenged this position and argued that children's inability to conserve measurement is not because of a deficiency in their conceptual mechanism, but a lack of recognition when to use them. Effective communication between speakers and learners of knowledge can establish a mutual mental context for comprehension and thus promote cognitive development. As a storybook-reading technique, dialogic reading is such a communication process that can accelerate children's language learning and academic development with children and adults engaged in potentially desirable patterns of interaction during the storybook reading time. Children learn to negotiate meanings through social interactions with other people in social settings. Texts facilitate discourses to develop a shared language. This study will explore the effect of the teacher-child dialogic reading on kindergarten children's constructions of physical knowledge (i.e., measurement conservation) and social knowledge (i.e., conflict resolutions). Measurement of children's social orientation, self-regulation, peer interaction, and play behavior will also be explored to investigate any potential impact. Forty-eight K2 children from four different kindergartens with different socioeconomic backgrounds will be recruited. The results are expected to contribute to an effective teaching method that can enhance preschoolers' cognitive development and wellbeing.



Exploring EFL Teachers' Instructional Design and Teacher-Student Interactions in Secondary Schools while Implementing Emergency Remote Teaching (ERT) Amidst the COVID-19 Pandemic: The Experiences from China

3 Dec 2020 | 11:45-12:05

Chang WEI

The Education University of Hong Kong

Mingyue Michelle GU

The Education University of Hong Kong



Abstract

The outbreak of the COVID-19 pandemic from early Spring 2020 has profoundly influenced the teaching and learning mode among schools worldwide. The Chinese education ministry launched the “Suspending Classes without Suspending Learning” initiative to transit from traditional face-to-face (F2F) teaching to emergency remote teaching (ERT) at all levels of the education system. Teachers may find it challenging to adopt remote teaching instruction. Therefore, it is of paramount importance to identify emerging issues and provide support measures to both school administrators and front-line teachers. Drawing on the interviews with EFL teachers from three secondary schools in China and online class observations amid the ERT, this study aims to explore how the front-line teachers adapt their instructional designs and teaching materials for effective remote teaching and enhancement of teacher-student interactions in virtual classrooms. The findings suggest the EFL teachers demonstrated their commitment and creativity in facilitating their children's remote learning. Teachers expanded their role and proactively adopted various digital approaches to re-structure their remote teaching instructions and maintain the control of virtual classes. Nonetheless, the findings suggest that while the abrupt transition to ERT has posed challenges for teachers in teaching and classroom engagement, this has in the meanwhile provided a unique opportunity for teachers to enrich their digital literacy and remote teaching instructions. Implications are provided to better support teachers to conduct more effective emergency remote teaching for the duration of the crisis and beyond.

Exploring the Trend of Research on Feedback and Self-regulated Learning: A CiteSpace Analysis

3 Dec 2020 | 15:00-15:20

Juan GAO

The Education University of Hong Kong

Lan YANG

The Education University of Hong Kong



Abstract

Based on Hattie and Timperley's (2007) synthesis study, effective feedback affects student learning at four levels (task-, process-, self-regulation, and self), among which the relationship between feedback and self-regulated learning may matter most to not only short-term, but also long-term learning outcomes. Moving forward, we did a comprehensive review and sought out 47 reviews (published from 2017 to 2020) as our main sources to do a CiteSpace analysis (Chen, 2006) aiming to visualize patterns and trends in scientific literature on students' feedback and self-regulated learning. Vitalized by centrality of keywords of these reviews, the results showed that achievement, instruction, classroom, academic performance, feedback are top 5 hotspots. Vitalized by citation bursts of keywords, meta-analysis, metacognition, self-regulation and accuracy are the top 5 strongest citation bursts. Visualized by countries, the results showed USA, Australia, New Zealand, Germany, Netherlands, Spain, Canada, South Korea, England and Sweden are the top 10 countries where feedback and SRL studies have been very active. Interestingly, visualized by clusters of research, five clusters were identified and a notable feature of these studies is self-efficacy belief. This finding is remarkable in terms of indicating a core aspect of examining the relationship between feedback and SRL would be to examine students' feedback self-efficacy (e.g., Do students perceive themselves capable of using feedback? See also Yang et al., 2014) and the self-efficacy component of SRL (e.g., Do students perceive themselves capable of practicing SRL?). Theoretical and empirical implications are discussed.

Features of Online Courses as COVID-19 Takes Hold —An Example of Micro Course 3.0 of New Century Primary Mathematics

3 Dec 2020 | 11:25-11:45

Yao Yao DONG

Beijing Normal University

Zhi Kun ZHANG

Beijing Normal University

Jian LIU

Beijing Normal University



Abstract

The outbreak of Corona Virus Disease 2019 brought challenges to the teachers and students worldwide. Instead of regular classroom teaching, online teaching became the "Education Normalcy" during the pandemic. Faced with the problems of "what to learn" and "how to learn" at home, Micro-Course 3.0 of New Century Primary Mathematics provided a "Chinese plan" for online courses under the pandemic. Based on the 1.0 and 2.0 versions of the micro-course, the micro-course 3.0 relied on the content of the New Century Primary Mathematics textbooks, which was an online course based on student perspectives. Qualitative research methodology of in-depth interviews and documentary research has been applied in this article to study the course features of the New Century Primary Mathematics textbooks. It has the following four course features: first, it paid attention to the real situation and the process of problem exploration; second, it provided emotional support and built an online math home for the students; third, it combined online and offline education to help students break through the misconceptions; fourth, it implemented asynchronous e-learning and established a ubiquitous resource system. On this basis, suggestions were proposed to promote the construction of online courses: promoted the education reform with integration of technology and students as the main body; deepened blended teaching to promote the autonomous development of students; built an online learning home based on asynchronous course recording and broadcast; established a concise and standardized online course design and implementation process.

The Effects of TikTok's Video Types on Improving University Students History Learning and Motivation: A Randomised Controlled Study

3 Dec 2020 | 15:40-16:00

Xiaoai Shen

The University of Hong Kong



Abstract

The short video platform TikTok has developed rapidly because of its pan-entertainment content, low creation threshold, and high efficiency of information transmission, which has gathered a large number of users. It allows the creators of various educational content to have a certain scale of fans and audiences. Short videos can locate difficulties of students quickly and form concise content one by one. Through videos, the effect of quick understanding and memory can be achieved. However, there seems to be little research to verify the relationship between various styles of educational short videos and college students' learning motivation. Methodologically, this study will recruit around 150 college students and they will be randomly assigned into three groups, namely, Group A (secondary editing of existing videos), Group B (sitcoms), and Group C (answering questions) according to three common types of short videos. The content of learning is modern history. Students' history performance will be measured using a standardized test. Besides, the Motivated Strategies to Learning Questionnaire (MSLQ) is used to quantitatively measure the learning motivation level of each group of students. Interviews also will be conducted to understand college students' perceptions and experiences of their learning in different video styles. This study would help us understand the effects of TikTok video types on improving students' motivation and offer some insights into the optimal manner to use TikTok. In this presentation, a set of designing principles of TikTok videos would be proposed.

Feedforward with uRewind: Video-based Formative Assessment for Professional Learning

2 Dec 2020 | 09:50-10:10

Dave Gatrell

The Hong Kong Polytechnic University

Abstract

Unlike traditional approaches to assessment and feedback, formative assessment coupled with *feedforward* offers students a high degree of control and emphasises their future development and positive improvement. It is not simply 'given to' students: instead, they are responsible for deciding on success criteria and have opportunities to assess their own performance and receive peer comments first before engaging in dialogue with a tutor. Combining formative assessment and feedforward with video can enable students to improve performance in a wide range of professional disciplines. By viewing recordings of themselves and peers, students can focus on the professional behaviours targeted in their programmes: micro-behaviours, holistic skills or the verbal, paralingual and non-verbal aspects that support communication. Video feedforward is most effective when it emphasises positive empowerment and a structured evaluation form is used to help students discover elements of their behaviour and evaluate performance. Recent advances in technology make it possible for students to record themselves completing a task and analyse their performance using digital tools. They can observe activities and interactions from multiple camera angles, edit their recordings and search videos for instances of a particular word. Students can then create time-stamped reflective comments within their videos or share recordings with tutors and peers, who can also engage in discussion around their performance, making specific recommendations for their future improvement. In this session, participants will explore formative assessment tasks related to professional disciplines taught at PolyU and plan how to integrate video-based formative assessment in their own context.

Forming a Virtual Learning Community to Enhance Experiential Learning

2 Dec 2020 | 14:00-14:20

Julie CHEN

The University of Hong Kong

Pauline LUK

The University of Hong Kong

Francis TSOI

The University of Hong Kong

Joyce TSANG

The University of Hong Kong

Abstract

Increasingly, tertiary education institutions are incorporating experiential-based learning to nurture the professional and personal development of their students. In 2018-19, 206 medical students from the University of Hong Kong and 41 education students from the Education University of Hong Kong collaborated and formed a virtual learning community that supported their out-of-classroom learning experience by linking these experiences with their professional goal of becoming doctors or teachers. In this study, we examined how the virtual learning community functioned and identified the factors that influenced the effectiveness of this community. Data were collected from the online posts and interactions of the online community, feedback from participants, as well as focus group interviews conducted with mentors and students from both universities. We found that the actual online participation and interactions were less structured than originally intended. Posts sharing aspects of the experiential learning experience were related to increased participation by members of the virtual learning community. Active team mentors or members were important to engage active participation and create a positive team dynamic for better learning collaboration. Content related to personal interests and the use of multimedia presentations appeared to generate the most meaningful and responsive interactions. A less structured online network may provide sufficient support to learners to enhance experiential learning, especially when students are geographically separated and engaged in diverse experiences.



Future Classroom in Early Years: An Exploratory Study in Hong Kong

3 Dec 2020 | 16:55-17:15

Xinyun HU

The Education University of Hong Kong

Yutong LIANG

The Education University of Hong Kong

Jiayi XU

The Education University of Hong Kong

Abstract

With the rapid development of technology, Early Childhood (EC) educators have been urgently required to appropriately integrate various and cutting-edge digital technologies to support the diverse learning needs of students in Hong Kong. The Future Classroom of EdUHK offers an opportunity for educators to integrate innovative toolkits to explore students' potential learning opportunities, embracing their design thinking and creativity. This study applies an exploratory case study approach to learn the ways of improving students' learning by using digital technologies in the Future Classroom, and develop practical toolkits for EC educators. Data was collected by activity plans, class videos, and students' artifacts. Three students aged 6-8 in Hong Kong were invited to participate in this study. Content analysis was employed to analyze the effectiveness of the toolkits on students' learning modal and engagement. The findings show that digital technologies can help change students' learning modal from passive to interactive by stimulating multimodal learning, i.e. making an AR vocabulary card required modals of linguistic, gestural, visual, and aural. The toolkits can build a platform for design thinking and creativity, i.e. a map and digital story of the ocean were created by using a toolkit composed of 3D printing models, coding robots, and a digital book App. Students' learning engagement can be improved by the toolkits, especially on the emotional aspect since they took the initiative to create their stories and characters at a later stage. Lastly, a list of practical digital resources is provided.



Future-proofing Our Workforce with a Paradigm Shift: A Policy Perspective

3 Dec 2020 | 10:45-11:05

Hoi Kit Victor KWOK

Our Hong Kong Foundation

Kam Fai Richard LAU

Our Hong Kong Foundation

Tiffany KWONG

Our Hong Kong Foundation

Abstract

As Artificial Intelligence and Industry 4.0 become mainstream, around 1 in 4 in our workforce risks having their jobs replaced in the next decade. Hong Kong, however, with its overly exam-oriented and insufficiently forward-looking system, is not ready to meet these challenges. We rank 36th globally in "Skills for Future Workforce" in the World Economic Forum's Global Competitiveness Index (2019), behind regional competitors such as Singapore and Malaysia. This paper discusses and advocates policy changes to equip the next generation for this new norm. Applied Education is the key both to ensure that students entering Hong Kong's workforce are familiar with relevant skills of leading industries, and to re-skill and up-skill those already in the workforce. It is distinguished by its capacity for grooming diverse talents outside of conventional academic pathways, such as micro-credentials, industry-school partnerships and internships, and Vocational and Professional Education Training (VPET). These efforts are crucial to inculcating lifelong learning habits, foster greater adaptability to global industry trends in Hong Kong's future workforce, and promote stronger institutional collaboration with industries to better cater to their immediate labour needs. Existing government policies and fallacies, along with global best practices, will be incorporated into the discussion. OHKF's previous research in Applied Education is encapsulated in our report titled "Applied Education: A Holistic and Flexible Education System for the Digital Age", largely focused on degree-offering institutions. With a broadened focus on non-degree qualifications and lifelong learning, our analysis will build on the conversation on Applied Education.



General Education for the Individual: Healthy Lifestyle

2 Dec 2020 | 13:00-13:20

Amy LEE

Hong Kong Baptist University

Abstract

General Education has become an important component of Hong Kong's university education since the change to a 4-year curriculum. While many believe that the general education programme represents a common ground of learning for students of all disciplines, some argue that the generality of this educational programme takes away time and other resources from the major discipline which is more valuable in terms of a professional, discipline-focused training for university students. This presentation, however, aims to understand general education from a different perspective, in terms of its relevance to the students' personal development at this specific time of their life, and also the many challenges existing in the larger environment. The presentation will be a sharing of a teaching and learning experience on Healthy Lifestyle, a required component in the General Education programme. Through reviewing the course assignments, students' weekly journal inputs, and final personal resolution projects, we can have a glimpse of the effects of such a course on some students' actual daily practices, and even their thoughts on the learning experience. This is good material for us to reflect on the educational value of such a course, and help us explore further the role of General Education in higher education. It is hoped that this will raise our awareness to the need to individualise the teaching and learning experience.

Grade Inflation in China's Higher Education: Perceptions of Faculty and Students

2 Dec 2020 | 10:10-10:30

Xiao PENG

The Chinese University of Hong Kong

Abstract

Based on previous research, grade inflation has been occurring since the 1960s. More recently, the phenomenon of grade inflation has progressively ascended in China as well. The decline of the teaching quality in higher institutions, adverse effects on employability and contradictions between faculty and students are three main problems revolving around grade inflation. With the dynamic interaction between teachers and students as the entry point of the study, in-depth interviews and participant observation are major data collection methods. As a qualitative research, the goal is not to draw generalizable conclusions; rather, the goal is to engage in an in-depth investigation of experiences, attitudes, and opinions of faculty and students about grade inflation under China's unique environment. All the data collected is coded and analyzed using Nvivo-11, and the path of coding mainly refers to the general path of grounded theory, which is open coding—axial coding—selective coding. The study finds that grade inflation is rampant in many Chinese universities. However, as insiders, faculty and students always ignore or are reluctant to face the problem. Grade inflation is tightly associated with consumerism by universities which are poaching students. Also, the teacher-student relationship is tending to show a sort of "illusory harmonious" during the process of course assessment. Professional autonomy and academic freedom may be eroded if universities do not conscientiously assess students' performances and give relatively high grades only to cater to students' personal needs.



Group Digital Documentaries in English Language Teaching: Benefits and Challenges of Collaborative Online Assessments

3 Dec 2020 | 12:25-12:45

John IVESON

The Hong Kong Polytechnic University

Abstract

In English language teaching (ELT), the greater number of options afforded by technology enhanced learning (TEL) in terms of assessment and learning is well recognised. At the same time, the potential synergies of a task-based approach within TEL contexts has provoked debate on concepts such as learner-centredness, a focus on meaning and the authenticity of task. Regarding learner benefits through the use of student-created digital content, these include improved productive and receptive skills, enhanced creative thinking, greater critical thinking skills, higher levels of student engagement and further development of discipline-specific competencies. Also, the increasing use of video as the medium by which knowledge and information are transferred means that ensuring students can communicate ideas through video is of vital importance. Despite potential benefits, concerns remain about the use of student-generated video for assessment purposes. This mixed-methods study, involving quantitative and qualitative analysis of student and teacher feedback questionnaires, as well as student interviews, investigates the impact on students' learning of working on a group digital documentary project with specific reference to their English language learning and related academic skills. The study also explores perceived benefits of a group digital documentary project for assessment purposes and makes recommendations on how teachers can be better equipped with the knowledge and skills to deliver this type of multimodal assessment. Key findings involved such perceptions as improved research and productive skills, beneficial impacts on engagement levels, interpersonal skills and feedback opportunities. Perceived challenges included time management, learning curves and detraction from language learning.

How Should Undergraduate Students Perceive Knowledge as a Product of Human Creation? Insights from a Study on Epistemic Beliefs, Intellectual Risk-Taking, and Creativity

4 Dec 2020 | 09:30-09:50

Zhi Hong WAN

The Education University of Hong Kong

John Chi Kin LEE

The Education University of Hong Kong

Weiping HU

Shaanxi Normal University

Abstract

Creativity and epistemic beliefs are important topics in both psychological and educational research. Despite the long history of research on each of these intrinsically related topics, little work has been done to connect the theories about them. Inspired by the 4C theory of creativity, this study investigated the effects of epistemic beliefs on creativity and the mediation of intellectual risk-taking. The subjects were 659 undergraduates in a university in Hong Kong. The findings revealed that (i) intellectual risk-taking was a strong and positive predictor of creativity; (ii) the *certainty* dimension of epistemic beliefs was a negative and significant predictor of both intellectual risk-taking and creativity, whereas the *complexity* dimension was a positive and significant predictor of both; (iii) the *source* dimension had an indirect positive impact on creativity mediated by intellectual risk-taking; and (iv) the *justification* dimension had a direct positive impact on creativity. By synthesising the conclusions from this study and the theory of epistemic development, a two-way model was generated to illustrate the undergraduates' epistemic beliefs and their relationships with creativity. The findings of this study indicated that a dialectical belief of knowledge as human creation might be the most beneficial for undergraduates to develop their creativity.

Investigation on Instructors' Teaching Adaptability to the Rapid Transition to Online Teaching at Macau colleges during COVID-19 Pandemic

3 Dec 2020 | 11:45-12:05

Jing SUN

The City University of Macau

Fuling CHEN

The City University of Macau

Jiangfeng LIN

The City University of Macau



Abstract

At the beginning of 2020, COVID-19 virus has been spreading all over the world. No one knows that all the courses moved online until the last minute. A lot of inadaptability occurred among instructors because of the rapid transition to online teaching. The research examines the instructors' adaptability to rapid transition to online teaching at university level in Macau, S.A.R China. Instructors experienced great challenges, such as technology unfamiliarity and rapid changes in teaching methods. The researcher attempts to answer the following research question: First, facing the rapid transition to online teaching, what kind of inadaptability instructors felt at a university level? Second, What can we do with the inadaptability? Some suggestions are given for online teaching training in terms of this rapid transition. To answer the research questions, the researcher conducts a quantitative method through spreading survey among almost 100 school instructors. The research uses correlation and regression to analyze instructors' inadaptability, especially facing the rapid transition as well as conducts interviews to give suggestions for the future training when facing the abrupt transition to online teaching. This paper contributes to identifying the challenges which instructors to face at a rapid transition to online teaching and what people can do next time under this situation in terms of training, policy etc. at university level.

Integrating e-learning into Teaching English Grammar: Case Study

2 Dec 2020 | 11:25-11:45

Patrick Chi Wai LEE

The Open University of Hong Kong



Abstract

This is a case study, attempting to showcase the integration of e-learning into teaching English grammar for a module titled "English Grammar" for degree students in a university in Hong Kong. This study primarily aims to report on the uses of technology tools ranging from a university's online learning platform, web links, to other applications for enhancing students' interest in learning and understanding of English grammar. This study purposefully embraced the framework of learning approach through technology, highlighting different interactive activities when learning English grammar. Specifically, given main module topics including *spoken and written English*, *persuasive power of writing*, *error-free English*, *bias-free English*, etc., students were expected to (i) listen to recorded audio-clips with spoken and written English, (ii) browse and evaluate existing fund-raising projects from web links (e.g. Kickstarter) for knowing a persuasive text that may drive ones to be a "backer" to a project, (iii) text the teacher an informative message via whatsapp for immediate feedback, (iv) examine authentic comments from the public via social media (e.g. "Instagram") on the mis-use of sexist and racist English (e.g. an ad. from H&M), etc. In summary, this case study has pointed to the result that students' English grammar learning through technology can be realised across different topics, and not necessarily through the traditional paper-based writing tasks and textbook case studies, and the technology tools range from interactive platforms, web links, whatsapp to applications, etc., Admittedly, this is a single case study, so there is no emphasis on its generalizability.

International Conference on Learning and Teaching

The Intersection of Affective Education and Satir Model : Start with the Iceberg Theory

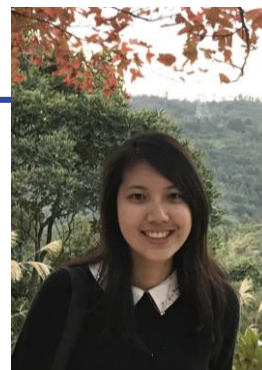
3 Dec 2020 | 15:40-16:00

Yat Ling CHOY

The Education University of Hong Kong

Abstract

香港中國語文教育包括九大範疇，品德情意為其中之一。過往情意教育較多運用道德討論法、價值澄清法、角色扮演等，從而培養學生的道德認知、意識和判斷力，並加強學生的自省能力。然而，較少學者探討輔導理論和情意教育的關係。沙維雅模式是一套獨特的正向成長模式，成長的目標包括人能為自己作更好的選擇、人能負起自己的責任、人的自我價值有所提升以及人能邁向身、心、靈和諧一致，平靜安穩的境界。當然，情意教育與輔導諮商並不一樣，但沙維雅模式能為情意教育帶來豐富的啟示。本文以沙維雅模式的冰山理論作為起點，闡述其與情意教育的相似及相通之處，然後展示不同的具體教學例子，說明沙維雅模式的理論和工具如何應用到情意教學的教材設計和教學實踐中。



Investigation into Sentence Comprehension in Language Users of Russian and English

2 Dec 2020 | 14:40-15:00

Liubov DARZHINOVA

The Education University of Hong Kong

Abstract

The literature of language pedagogy has often been suggesting that output production and input comprehension are the two facets, which are crucial for language learning and teaching. In order to comprehend a sentence, a language user is supposed to execute a number of particular tasks concomitantly such as linking words with their meanings (semantic comprehension) and deriving meaning from the liaison of words in a sentence (syntactic comprehension). There are more tasks, which come along the way, suggesting that highly complex processes underlie sentence comprehension as a part of a whole-text comprehension. In this paper, the author addresses the phenomenon of sentence comprehension by reviewing the linguistic frameworks, which shed the light on sentence comprehension in mono- and bilinguals. To test the frameworks, the paper further reports on the behavioral study on Russian-English bilinguals, with the twofold research question: which type of L1 and L2 sentence comprehension is faster, semantic or syntactic; and which type of L1 and L2 sentence comprehension is more accurate, semantic or syntactic? For the actual experiment, the subjects were asked to push the left or right arrow of the keyboard to judge about the correctness of the presented sentences. The outcome of each trial was the data with reaction time and accuracy, which are the important research strands. The results of the study inform language pedagogy in that semantic comprehension on the sentence level in bilinguals is more accurate than syntactic type.



A Laboratory-Based Undergraduate GE Curriculum that Integrates Engineering and Neuroscience

3 Dec 2020 | 16:55-17:15

Leanne Lai Hang CHAN

City University of Hong Kong

Rosa Ho Man CHAN

City University of Hong Kong

Stella W PANG

City University of Hong Kong

Abstract

Active learning through hands-on experience plays a crucial role in enhancing student performance and engagement in classroom. While resources are often allocated to develop laboratory teaching for students in science and engineering major, general laboratory teaching is not commonly offered to students in other majors. A laboratory-based curriculum equipped with biotechnology infrastructure is essential for innovation and technology ideas to flourish among students with diverse backgrounds. We have developed a laboratory-based curriculum in a general education (GE) course for students with diverse backgrounds, titled "Introduction to Human Bionics". This GE course has been offered for eight years with a vast diversity in student compositions (i.e. science, engineering, business, accounting, social sciences, creative media, and law), of class size ranged from 20 to 190. The laboratory modules include sensor prototype design using computer-aided design tool, 3-dimensional prototype scanning and printing, scanning electron microscope imaging, sensor device production inside a fabrication cleanroom, and live cell imaging on platform. The course evaluations revealed that the laboratory modules are highly rated by students with positive feedback and recognitions. This study demonstrated that laboratory-based curriculum in a GE course could provide a sense of ownership, through a series of designs, implementation, and hands-on practice to enrich students' learning experience. This study could provide an important insight that the laboratory teaching is important and helpful in the undergraduate GE curriculum and the educator will value this kind of inquiry-based laboratories and see the benefits of increased student involvement and retention of material.



Leadership Learning in Higher Education in the 21st Century: How Can Universities Cultivate Responsible Leaders Who Will Flourish in the Midst of Challenges and Further the Good of Society?

3 Dec 2020 | 16:35-16:55

Edward BROOKS

University of Oxford

Samson TSE

University of Hong Kong

Jessie YUE WRIGHT

University of Hong Kong

Abstract

How can a new generation of students be prepared to take up positions of responsibility in a dynamic global environment, serving as leaders and citizens who will further the good of societies around the world? As the institutions responsible for educating the next generation of citizens and leaders at a formative time in their intellectual and personal development, universities have an important role to play in shaping those who will shape society. While many universities emphasize their desire to develop future leaders for our challenging times, programs that actively seek to help students develop qualities of character required for responsible leadership are rare. This paper introduces one such unique blended-learning program at the University of Hong Kong, which made use of a creative combination of in-person and online learning in order to help students grow in their intellectual understanding of leadership as well as in the self-knowledge and virtues of character required to enact responsible leadership in their own lives. It presents the results of a quasi-experimental, mixed method, controlled longitudinal study, undertaken to evaluate the impact of the program and establish proof-of-concept. The analysis indicated that the program was effective in furthering students' intellectual understanding of leadership, their leadership identity and ethical formation. The paper describes the impact of the program, identifies the successful aspects of our approach, as well as the challenges we faced, and highlights ways in which this program and others like it could be deployed as an important component of higher education into the future.



Peer Feedback Training and Peer Feedback Effectiveness in Enhancing Social and Academic Achievements in Group Projects

3 Dec 2020 | 16:15-16:35

Baoru SONG

The Education University of Hong Kong

Abstract

This study will test the effectiveness of peer feedback during group project preparation to enhance the quality of peer feedback, which potentially affects learning outcomes of students' group projects. The use of peer feedback can potentially increase the quantity and quality of feedback to support learning improvement. Past studies on peer feedback have mainly investigated students' written peer feedback and evaluation of group members' performance upon completion of group assignments. Existing research has rarely touched on peer interaction through which peer feedback occurs, which is crucial for understanding the ways by which peer feedback affects achievement and social outcomes (e.g., social engagement with peers) in assessment. Three research questions will be addressed: (1) How effective is students' peer feedback practice in improving achievement in their group projects? (2) How do students perceive the effectiveness of peer feedback provision in enhancing performance and social engagement in the presence or absence of peer feedback training? (3) What modes of peer interaction to communicate peer feedback are the most effective in promoting achievement and social engagement? Data collection will be undertaken through survey with 80 students in two classes (control and experimental), the observations and focus group interviews only with students in the experimental class. Quantitative data will be analysed by t-test and path analysis. Qualitative data will be analysed by the grounded method. Findings will inform effective assessment and feedback training strategies, which will be used to promote student teachers' peer feedback practices and academic achievement.

A Pilot Evaluation of the Effects of Classroom Nature Corner on Chinese Children's Nature Connection and Attention Span

2 Dec 2020 | 11:05-11:25

Cannie Y S CHAN

Hong Kong Baptist University

Sam S S LAU

Hong Kong Baptist University

Abstract

Researchers have come to realise in recent years that not only can nature-based education help enhance young children's connection to nature, but it may also improve attention span. However, studies focusing on both the benefits of enhanced nature connection and improved attention span of nature-based education are limited. In this study, we sought to explore using nature corner as a nature-based education strategy in preschool classrooms in 100% urbanised Hong Kong where kindergartens are mostly housed in high-rise buildings, outdoor nature-based education opportunities are limited. We aimed to examine the effect of classroom nature corners on the change of young children's nature connectedness and attention span and compare the effect of nature corners set up with living organisms versus plastic-model figure organisms on the children's nature connectedness and attention span. Using the Attention Restoration Theory (ART) as a theoretical framework, the study adopted a control experiment group pretest-posttest design. Results reveal that only living organisms were associated with improvement in children's attention performance and nature connection, but not plastic-model figure organisms. Findings suggest that further research on the effects of nature-based education strategies in different early childhood classroom settings in compact Hong Kong is warranted.

Putonghua/Mandarin Learning of South Asian Students in Hong Kong

3 Dec 2020 | 12:05-12:25

Cindy Man Fong LAM

The Open University of Hong Kong

Abstract

Chinese Education for non-Chinese ethnic minorities' students is a challenging issue in 21st century Hong Kong. Past studies address the learning needs and challenges of non-Chinese speaking students. Although many studies have examined the competence of Chinese language (spoken Cantonese and written Chinese), less is known about their learning experience of Putonghua/Mandarin which has been a core component of the primary and secondary curricula. A sociolinguistic survey was conducted, including a questionnaire aiming to have a general understanding of the participants' language background Putonghua/Mandarin learning experience followed by semi-structured interviews in order to take an in-depth look at their language difficulties. Based on data obtained from South Asian ethnic minority students, this preliminary study reports on SA students' learning experience including difficulty in mastering Putonghua, learning motivation as well as language attitude in Hong Kong. The preliminary results suggest that most students had a positive attitude towards Putonghua. However, the results also suggest that most teachers hold a less demanding attitude towards Non-Chinese students' performances' on Putonghua learning. Moreover, tonal perception and production is one of the most learning difficulties. The findings will provide crucial information for the planning and implementation of Chinese-language education for those students, particularly the possible contribution of learning challenges of Putonghua for non-Chinese in Hong Kong.

Research on the Coping Strategies of Chinese Higher Music Education Under the COVID-19 Epidemic Situation and the Prospect of Informatization

3 Dec 2020 | 15:20-15:40

Rui MA

Beijing City University

Abstract

過去的幾個月裏，新冠肺炎疫情全球蔓延。疫情期間，為了實現教學工作順利開展，我國高等音樂教育領域做出了巨大的努力。本研究採用構造周抽樣法對網路資訊進行收集，並結合訪談法、案例法進行研究，描述和分析疫情期間我國高等音樂教育領域的應對策略。研究發現領域內各高校應對策略形成迅速，實施方案周全，開展過程順利：第一，教學組織靈活多樣，綫上課程、雲端藝考、雲端答辯和音樂會等措施保證了教學的順利實施。第二，各種輔助資源適切便利，疫情防控指南的推廣和心理服務的啟動在幫助師生應對心理挑戰方面起到了重要的作用。第三，學科特色鮮明，領域內普遍開展藝術創作、音樂展演聲援戰疫工作，展現了音樂藝術的獨特魅力。國內疫情趨於穩定后，領域內各高校已開始回歸綫下教學，但有相當一部分綫上學習資源得以存續使用。然而，目前相關技術水準無法完全滿足音樂教學實踐的個性化要求，各類樂器聲音的同步傳導與真實還原將是未來的發展方向。



Student as Partners in Rubric Design: A Case Study of a Gradeless Module

3 Dec 2020 | 12:05-12:25

Florence Jia Yun NG

National University of Singapore

John HENG

PSB Academy

Abstract

Institute of Higher Learning (IHL) has evolved over the past decade in efforts to bring about a closer relationship between students-staff. One evidence of this is the rising popularity of student-staff partnership pedagogy in the university learning community. Student-staff partnership pedagogy values "student voice" as they act as collaborators in curriculum development. Providing students an opportunity to take part in the curriculum development promotes shared ownership in the module, fosters belongingness and motivation. While the literature on student-staff partnership is not new, it is an area that warrants further exploration in the different higher education contexts. Prior literature investigated student-staff partnerships in various educational settings, including blended learning modules, discipline-specific first-year programs and language teaching. Limited research has investigated student-staff partnership in "gradeless" modules; hence this study aims to address this gap. Gradeless learning refers to assessment without letter/numerical grades, such as pass/fail and does not contribute to students' cumulative average point (CAP). In this study, we explore a case of a gradeless module across two semesters where students were invited to partner the instructor in the development of a rubric. We also demonstrate how students' feedback collected in the first semester could actively co-construct the next term run of the course, contributing to the literature in higher education. Results from this study can be generalized to other modules that are learning oriented and the potential benefit of student as partners in rubric design reported in this study can also mirror those mentioned in the literature on grades and learning.

Student Performance in Online Classes – A Comparative Study

3 Dec 2020 | 11:05-11:25

Fred K T KU

The Chinese University of Hong Kong

David L K CHOW

The Chinese University of Hong Kong

Andrew C L YUEN

The Chinese University of Hong Kong

Edwin K M MOK

The Chinese University of Hong Kong



Abstract

The outbreak of coronavirus has prompted many universities in the world to switch to online teaching and learning in a relatively short period of time. Using platforms like Zoom to conduct synchronized, live classes was the policy of many universities, and it has been attracting lots of attention from educators and pedagogical specialists. This paper presents the preliminary results of a study that evaluated teaching and learning effectiveness of synchronized online classes in a business school in Hong Kong. In particular, the study measures the impacts of online teaching and learning on student performance in an undergraduate finance course. Student performance data of two cohorts of students, one from a face-to-face (f2f) class, and another from a synchronized online class was collected and analyzed. The preliminary results showed that on average students from f2f class performed significantly better than those from an online class, and the variation in student performance was smaller in a f2f class. While female students were negatively affected by the online mode, there was no significant difference in the average scores of male students in f2f and online classes. It was also noted that the variation of student performance was larger for online classes in both female and male students. The study informed educators about the impact of online T&L on different student groups and shed light on the development and implementation of online education.

Teachers' Perception and Practices of Education for Sustainability in Early Childhood Education in Hong Kong

2 Dec 2020 | 10:45-11:05

Natalie T Y LO

Hong Kong Baptist University

Sam S S LAU

Hong Kong Baptist University

Abstract

With the continuing population growth and increasing environmental degradation, Education for Sustainability (EfS) movement has been gaining momentum around the world in recent years. In particular, early childhood education is emerging as an important enabler of sustainable development. The Education for Sustainability (EfS) in the early childhood education has been widely promoted, publicised and practised in western countries. In Hong Kong, however, EfS is not mandatory in early childhood education and the EfS concept is not commonly known. The present study aimed to investigate local in-service and pre-service early childhood teachers' understanding and perception on EfS and their teaching practices of EfS. The findings show that both in-service and pre-service early childhood teachers have a positive attitude towards issues in relation to Sustainable Development and inclusion of EfS into early childhood education curriculum. The current study reveals major obstacles in the implementation of EfS in early childhood education and sheds light on the EfS development in Hong Kong. At a time when there is growing evidence of the importance of equipping the next generation with EfS early to achieve sustainable development and environmental conservation, this paper calls for urgent action to develop EfS curricula and integrate EfS into early childhood education in Hong Kong.

Teaching and Learning Renewable and Recycling Technologies at CUHK Smart Garden

4 Dec 2020 | 09:50-10:10

Dongkun HAN

The Chinese University of Hong Kong

Asta Lai Fan LAI

The Chinese University of Hong Kong

Chi Ming CHEUK

The Chinese University of Hong Kong



Abstract

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

International Conference on Learning and Teaching

Using Technology to Teach Attitudinal Skills: Extending the Augmented Reality Ethical Trails Beyond Hong Kong

3 Dec 2020 | 11:05-11:25

Kendall YAN

Hong Kong Baptist University

Martin LAU

Hong Kong Baptist University

Lisa LAW

Hong Kong Baptist University

Eva Y W WONG

Hong Kong Baptist University

Grace NG

Hong Kong Baptist University

Theresa KWONG

Hong Kong Baptist University



Abstract

Between 2014 and 2018, the joint-institutional “AIE-AR” project effectively made use of augmented reality (AR) and mobile devices to help reinforce students’ awareness of academic integrity and ethics (AIE) – an abstract concept for many. A number of learning trails – Trails of Integrity and Ethics (TIEs) were developed for students to immerse themselves into scenarios where additional features are incorporated via AR, and for them to play out the consequences of their decisions. Students’ responses were further discussed online or in-class within ethics-related courses. Through the project, over 9,000 students at the four partner institutions in Hong Kong had benefitted from the 11 general and discipline-specific TIEs. The results of data analyses, published in major conferences and journals, showed that such an approach could reinforce the links between theoretical learning about AIE and its practical application. The project was recognised by the University Grants Committee Teaching Award and numerous international awards in eLearning. Rather than just close down everything when the project achieved all its stated targets and outcomes and the funding support exhausted, two of the partner institutions have decided to institutionalise the approach, and extend it beyond Hong Kong. In this presentation, our successful extension of the project to developing countries, by transplanting a TIE to an institution in India, and assisting another institution in the Philippines to set up their own TIE, will be outlined. Data collected for comparison will be discussed to highlight how we can make use of technology to help students learn important attitudinal skills.

**Thank you for joining The International Conference on Learning and Teaching 2020
See you next year**