Conference Programme
International Conference on Blended Learning 2021

and

International Symposium on Educational Technology 2021

CONFERENCE PROGRAMME

(ONLINE)

10 to 13 August 2021

NIHON FUKUSHI UNIVERSITY
TOKAI · NAGOYA · JAPAN
INTERNATIONAL CONFERENCE ON BLENDED LEARNING 2021

ABOUT THE CONFERENCE

The International Conference on Blended Learning (ICBL) is an annual international conference with the main focus on blended learning – an integration of the traditional learning with innovative means, such as e-learning and open online learning, in order to create a new learning environment to improve learning effectiveness and enrich learning experience. The purpose of ICBL is to bring together researchers and developers from education and computer science to advance the research of blended learning.

This year, ICBL 2021 is the 14th conference of the ICBL conference series. ICBL 2021 is hosted by Nihon Fukushi University, Tokai, Nagoya, Japan, but in online mode due to the Covid-19 pandemic. The main theme is Blended Learning: Re-thinking and Re-defining the Learning Process. Accepted papers are included in the conference proceedings published by Springer under its Lecture Notes in Computer Science series (LNCS), as volume 12830. Selected good papers will be invited to submit extended papers to the Journal of Computing in Higher Education in a Special Issue entitled Redefining the Learning Process Through Educational and Technological Innovations, and the International Journal of Innovation and Learning in a Special Issue entitled Towards Flexible Learning to Mitigate Emerging Risks.

Commencing in 2008, ICBL with its predecessors the International Conference on Hybrid Learning (ICHL) had attracted hundreds of delegates from many countries and regions. Previous conferences are highlighted below:

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<tr>
<td>1st ICHL 2008</td>
<td>City University of Hong Kong</td>
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<tr>
<td>2nd ICHL 2009</td>
<td>University of Macau</td>
<td>25 – 27 August 2009</td>
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<td>3rd ICHL 2010</td>
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<td>4th ICHL 2011</td>
<td>SPACE, University of Hong Kong</td>
<td>10 – 12 August 2011</td>
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<td>5th ICHL 2012</td>
<td>South China Normal University</td>
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<tr>
<td>6th ICHL 2013</td>
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<td>7th ICHL 2014</td>
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<td>8th ICHL 2015</td>
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<tr>
<td>12th ICBL 2019</td>
<td>University of Hradec Kralove</td>
<td>2 – 4 July 2019</td>
<td>LNCS Vol. 11546</td>
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<td>13th ICBL 2020</td>
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<td>24 – 27 August 2020</td>
<td>LNCS Vol. 12218</td>
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INTERNATIONAL SYMPOSIUM ON EDUCATIONAL TECHNOLOGY 2021

ABOUT THE SYMPOSIUM

The International Symposium on Educational Technology (ISET) is an annual international symposium with the main focus on a wider scope of educational technology. The purpose of ISET is to bring together researchers and developers from education and computer science to advance the research and application of information and communication technology in education.

Held together with ICBL 2021, ISET 2021 is the 7th symposium of the ISET symposium series. ISET 2021 is hosted by Nihon Fukushi University, Tokai, Nagoya, Japan, but in online mode due to the Covid-19 pandemic. The main theme is *Technological Innovation: Re-thinking and Redefining the Learning Process*. Accepted papers are included in the symposium proceedings published by IEEE Computer Society Conference Publishing Services (CPS). Authors of selected good papers will be invited to submit extended papers to the Journal of Computing in Higher Education in a Special Issue entitled *Redefining the Learning Process Through Educational and Technological Innovations*, and the International Journal of Innovation and Learning in a Special Issue entitled *Towards Flexible Learning to Mitigate Emerging Risks*.

The Symposium series started in 2015, and since then, had attracted hundreds of delegates from many countries and regions. Previous symposiums are highlighted below.

<table>
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ICBL 2021 and ISET 2021 are held in online mode. Please follow the steps below to join the conference.

**Step 1. Visit the online programme schedule**

*For ICBL 2021:*

- Click “Programme” at the menu bar
- Click the “Join” button of the corresponding session

*For ISET 2021:*

- Click “Programme” at the menu bar
- Click the “Join” button of the corresponding session

**Step 2. Join your selected conference session**

- Enter the meeting ID and/or password to join (The meeting ID and/or password will be given to you via e-mail beforehand.)
- Select “Join with Computer Audio” to enable the computer’s speaker and microphone in the Zoom meeting

**Step 3. Leave your selected conference session**

- Select “Leave” to leave your selected conference session

**Important Note**

All sessions are scheduled in Tokyo time, i.e. GMT + 9 hours. You are advised to join in a session earlier than the scheduled commencement time. Normally, a session will open for joining around 10 minutes before the scheduled commencement time.
**INTERNATIONAL CONFERENCE ON BLENDED LEARNING 2021**

**10 August 2021**  
*(please note that all sessions are scheduled in Tokyo time, GMT + 9 hours)*

| 15:00 – 16:00 | **Workshop Session**  
**Online Experiential Learning Efforts at Nihon Fukushi University - Discussion on Key Factors in Light of Online Interactive Outcomes**  
*Makoto Kageto*  
*Nihon Fukushi University, Nagoya, Japan*  
Meeting ID: 83363005044 |

**11 August 2021**  
*(please note that all sessions are scheduled in Tokyo time, GMT + 9 hours)*

| 09:15 – 09:30 | **Opening Remarks**  
Meeting ID: 88436729539 |
| 09:30 – 10:30 | **Keynote Session 1**  
*From Nine Events of Instruction to the First Principles of Instruction: Transformation of Learning Architecture for Society 5.0*  
*Katsuaki Suzuki*  
*Kumamoto University, Kumamoto, Japan*  
Meeting ID: 88436729539 |
| 10:30 – 11:00 | **Tea Break** |
| 11:00 – 12:00 | **Keynote Session 2**  
*From MOOC to SPOC: Fable-based Learning*  
*Jimmy Ho Man Lee*  
*The Chinese University of Hong Kong, Hong Kong*  
Meeting ID: 88436729539 |
| 12:00 – 13:30 | **Lunch Break** |
| 13:30 – 15:30 | **Paper Session**  
**Enriched & Smart Learning Experience**  
*Chair: Billy Tak-Ming Wong*  
Meeting ID: 85115962120 |
| 15:30 – 16:00 | **Tea Break** |
| 16:00 – 17:40 | **Paper Session**  
**Experience in Blended Learning**  
*Chair: Xiaohong Zhang*  
Meeting ID: 85115962120 |
INTERNATIONAL CONFERENCE ON BLENDED LEARNING 2021

12 August 2021  
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<tr>
<th>Time</th>
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| 09:30 – 10:30 | Keynote Session 3  
The Meaning of Learner Centeredness in Higher Education Revisited  
Lisa Yekyung Lee  
Sogang University, Seoul, Korea  
Meeting ID: 82654628370 |
| 10:30 – 11:00 | Tea Break                                   |
| 11:00 – 12:00 | Keynote Session 4  
Seeing the Future of Education: A Three-Year Experiment of Digital Reading Online Course  
Wenge Guo  
Peking University, Beijing, China  
Meeting ID: 82654628370 |
| 12:00 – 13:30 | Lunch Break                                 |
| 13:30 – 15:30 | Paper Session  
Online and Collaborative Learning  
Chair : Heng Luo  
Meeting ID: 86017164585 |
| 15:30 – 16:00 | Tea Break                                   |
| 16:00 – 17:40 | Paper Session  
Institutional Policies & Strategies  
Chair : Simon K.S. Cheung  
Meeting ID: 86017164585 |
**INTERNATIONAL CONFERENCE ON BLENDED LEARNING 2021**

**13 August 2021**  
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| 09:00 – 10:40 | **Paper Session**  
**Content and Instructional Design**  
*Chair: Ivana Simonova*  
Meeting ID: 81174267303 |
| 10:40 – 11:00 | Tea Break                                                              |
| 11:00 – 12:15 | **Panel Session**  
Redefining the Learning Process Through Educational and Technological Innovations  
*Horace H.S. Ip (chair)*  
City University of Hong Kong, Hong Kong, China  
*Kenichi Kubota (co-chair)*  
Kansai University, Osaka, Japan  
*Youru Xie (co-chair)*  
South China Normal University, Guangzhou, China  
Meeting ID: 85367553500 |
| 12:15 – 12:30 | Closing Remarks and Award Presentation  
Meeting ID: 85367553500 |
# INTERNATIONAL SYMPOSIUM ON EDUCATIONAL TECHNOLOGY 2021

**10 August 2021**  
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<td><strong>Keynote Session 2</strong></td>
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<td>16:00 – 18:00</td>
<td><strong>Paper Session</strong></td>
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<td><strong>Chair : Lap-Kei Lee</strong></td>
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<td><strong>Keynote Session 3</strong>&lt;br&gt;The Meaning of Learner Centeredness in Higher Education Revisited&lt;br*Lisa Yekyung Lee&lt;br&gt;Sogang University, Seoul, Korea&lt;br&gt;Meeting ID: 82654628370**</td>
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<td><strong>Tea Break</strong></td>
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<td><strong>Keynote Session 4</strong>&lt;br&gt;Seeing the Future of Education: A Three-Year Experiment of Digital Reading Online Course&lt;br*Wenge Guo&lt;br&gt;Peking University, Beijing, China&lt;br&gt;Meeting ID: 82654628370**</td>
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<td><strong>Lunch Break</strong></td>
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<td>13:30 – 15:30</td>
<td><strong>Paper Session</strong>&lt;br&gt;Ubiquitous Learning and Flexible Learning&lt;br*Chair: Oliver Au&lt;br&gt;Meeting ID: 82975727446**</td>
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<tr>
<td>15:30 – 16:00</td>
<td><strong>Tea Break</strong></td>
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<td>16:00 – 18:00</td>
<td><strong>Paper Session</strong>&lt;br&gt;Smart Learning Environment&lt;br*Chair: Billy T.M. Wong&lt;br&gt;Meeting ID: 82975727446**</td>
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<td><strong>Paper Session</strong>&lt;br&gt;Instructional Technology (I)&lt;br*Chair: Kwan-Keung Ng&lt;br&gt;Meeting ID: 83788628795**</td>
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| 09:00 – 10:40 | Instructional Technology (II)  
*Chair*: Oliver Au  
Meeting ID: 86537673956 | Gamification and Virtual Reality for Education  
*Chair*: Michael Jiang  
Meeting ID: 84493100999 |
| 10:40 – 11:00 | Tea Break                                                                     |                                                                               |
| 11:00 – 12:15 | Panel Session  
**Redefining the Learning Process Through Educational and Technological Innovations**  
*Horace H.S. Ip (chair)*  
City University of Hong Kong, Hong Kong, China  
*Kenichi Kubota (co-chair)*  
Kansai University, Osaka, Japan  
*Youru Xie (co-chair)*  
South China Normal University, Guangzhou, China  
Meeting ID: 85367553500 |                                                                               |
| 12:15 – 12:30 | Closing Remarks and Award Presentation  
Meeting ID: 85367553500 |                                                                               |
KEYNOTE SESSION 1

From Nine Events of Instruction to the First Principles of Instruction: Transformation of Learning Architecture for Society 5.0

Katsuaki Suzuki
Kumamoto University
Kumamoto, Japan

Abstract. This keynote addresses a needed shift in designing learning architecture for transforming education to meet the needs of Society 5.0, Super Smart Society. The 9 events of instruction, a traditional instructional design theory proposed in the 1970's by Robert M. Gagne, will be reviewed as the framework for facilitating human learning based on information processing theory. It will then be compared with a more recent framework of the First Principles of Instruction, proposed by M. David Merrill in 2002, reflecting various theories and models proposed based on constructivist psychology. Similarities and differences will be discussed to suggest how to utilize them as an architectural framework for blended learning design toward a more learner-centered self-directed learning environment.

Biography. After graduating from International Christian University in Tokyo, Dr. Suzuki went to Florida State University, where he was awarded Ph.D in Instructional Systems in 1985. He has worked at a private and a public university in Japan before he joined Kumamoto University to start an online Graduate School of Instructional Systems in 2006. He is currently a fellow of International Board of Directors for Training, Performance, and Instruction (ibstpi), an honorary member of e-Learning Consortium Japan, as well as on advisory board for School of e-Education, Hamdan Bin Mohammed Smart University, UAE, and a consulting editor of Educational Technology Research and Development, published by the Association for Educational Communications & Technology, USA. He has supervised translation of 6 books into Japanese, written and edited more than 20 books and book chapters, including Online Learner Competencies: Knowledge, Skills, and Attitudes for Successful Learning in Online Settings.
KEYNOTE SESSION 2

From MOOC to SPOC: Fable-based Learning

Jimmy Ho Man Lee
The Chinese University of Hong Kong
Hong Kong, China

Abstract. This presentation gives the pedagogical innovations and experience of the co-development of three MOOCs on the subject of "Modeling and Solving Discrete Optimization Problems" by The Chinese University of Hong Kong and the University of Melbourne. In a nutshell, the MOOCs feature the Fable-Based Learning approach, which is a form of problem-based learning encapsulated in a coherent story plot. Each lecture video begins with an animation that tells a story based on a classic novel. The protagonists of the story encounter a problem requiring technical assistance from the two professors from modern time via a magical tablet granted to them by a fairy god. The new pedagogy aims at increasing learners' motivation and interests as well as situating the learners in a coherent learning context. In addition to scriptwriting, animation production and embedding the teaching materials in the story plot, another challenge of the project is the remote distance between the two institutions as well as the need to produce all teaching materials in both (Mandarin) Chinese and English to cater for different geographic learning needs. The MOOCs have been running recurrently on Coursera since 2017. We present learner statistics and feedback, and discuss our experience with and preliminary observations of adopting the online materials in a Flipped Classroom setting.

Biography. Jimmy Lee obtained both his BMath (Hons) and MMath degrees at the University of Waterloo, and completed his doctoral studies at the University of Victoria. Upon graduation, he joined The Chinese University of Hong Kong (CUHK), where he is now Associate Dean (Education) in the Faculty of Engineering and Professor in the Department of Computer Science and Engineering. His research interests lie in Artificial Intelligence in general and the theory and practice of Constraint Satisfaction and Optimization in particular. His work entails applications in scheduling, resource allocation, and combinatorial problems. He is also an amateur researcher in learning science and technology, focusing on the design of learning platforms and pedagogies for enhancing students' learning experience. During 2017-18, Jimmy joined hands with Peter Stuckey (then) at the University of Melbourne to launch a series of MOOCs on Coursera in both Chinese and English on modeling and solving discrete optimization problems using the Fantasy-based Learning approach, and received good feedback from the learners' community. Jimmy is a two-time recipient (2004 and 2015) of the CUHK Vice-Chancellor's Exemplary Teaching Award and was bestowed in 2017 the CUHK University Education Award, the highest honour in education at CUHK.
The Meaning of Learner Centeredness in Higher Education Revisited

Lisa Yekyung Lee
Sogang University
Seoul, Korea

Abstract. This keynote addresses the meaning of ‘learner centered’ education at a time when university students and educators all over the world are (or have been) inevitably thrust into, due to the Covid-19 pandemic. Going online for months surely tests the ability of educators to deliver student centered and interactive learning in a challenging environment. Learner centeredness, in general, implies learning in which the learner’s responsibilities and activities are emphasized compared to that of the instructor. This does not mean that the educator’s role is weakened. Professors must be active in providing feedback about misconceptions and confusions to help students grow into experts. They should also clarify the relation between class projects with the course objectives and the real world, and help students with low competence develop strategies when solving open-ended problems. Students want to think like an expert and apply their skills for solving real world problems. They also desire academic growth by modelling deep insight from their professors. The educator’s role for providing meaningful guidance has become more critical than ever especially for first or second year students who may need much scaffolding for their intellectual development. However, when online classes are carried out for a prolonged time, students’ self-regulation subsides, and the yearn for ‘togetherness’ rises, making it difficult to maintain learner centeredness. Specific examples and their underlying principles of the support provided to students and educators for overcoming their difficulties in 2020 will be discussed in the presentation.

Biography. Dr. Lee obtained her bachelor’s and master’s degree at Seoul National University and completed her doctoral studies at Purdue University with a major in educational technology. After briefly working as a senior researcher at the Center for Human Resource Development at SNU, she joined Sogang University as faculty member of Sogang Graduate School of Education. She is a member of the Presidential Committee of the 4th Industrial Revolution in Korea and recommends plans and policies for the future of education in Korea. She is also committee member of the Korean Society for Educational Technology and Korean Association for Educational Information & Media. Her research interests include instructional methods based on social psychology, instructional design for developing thinking skills, and integrating technology for student centered learning.
Abstract. The history of the evolution of education and media technology from oral to Internet shows that literacy has developed from the oracy, via the print-based literacy, to the digital literacy. In the ecosystem of Internet, the form of reading materials is changing from printed books to digital multimedia contents, including e-books, video, audio, VR, games, etc. Today, the form of teaching is changing from face-to-face classroom to online classroom mediated by ICT. The change of teaching methods has further brought about a new paradigm of educational research. Based on this background, the Digital Reading Laboratory in the Graduate School of Education, Peking University conducted an experiment on online digital reading courses during 2015 to 2018 in cooperation with three middle schools. This paper will describe this experiment and report the findings.

Biography. Dr. Wenge Guo is an Associate Professor, Department of Educational Technology, Graduate School of Education, Peking University, where she served as the chair of the department during 2004 to 2009, and is the founding chair of the Digital Reading Laboratory. She has been a visiting scholar of the State University of New York at Albany, Chinese University of Hong Kong, and Free University of Berlin. Her research focus is the areas of the history of media technology and education, online education, policy analysis of the China online higher education, and digital literacy.

Dr. Guo earned a bachelor’s degree in computer software, master’s degree in remote science and cartography, and Ph.D. of education. Her publications include 1 monograph, and over 50 papers in Chinese and English. Her researches won several excellent academic awards in China. She is an excellent Chinese scholar of NCET in 2011.

Dr. Guo coordinated the project, Peking University Online Training Course of Educational Technology for K12 Teachers, which was enrolled by more than 470,000 K12 teachers during 2007 to 2013. She initiated the Digital Reading Online courses for students of 3 high schools in Suzhou, Jiaxing, and Beijing. The courses were ranked as one of the six cases of China’s New Curriculum list by China Teachers' Daily in 2016.
PANEL SESSION

Session Title TBC

Horace H.S. Ip (Chair)
City University of Hong Kong, Hong Kong, China

Prof. Ip is the Vice-president in Student Affairs and a Chair Professor of Computer Science at City University of Hong Kong. He has a BSc in Applied Physics and PhD in Image Processing from University College, London, United Kingdom. His research interests include multimedia content analysis and retrieval, and virtual reality for education. Professor Ip's research has won many awards including Prix Ars Electronica, and a Gold Medal of the Geneva Salon International Des Inventions. He has published over 300 papers in international journals and conference proceedings. Prof. Ip is a Fellow of the Hong Kong Institution of Engineers (HKIE), a Fellow of the UK Institution of Engineering and Technology (IET), a Fellow of the British Computer Society (BCS) and a Fellow of the International Association for Pattern Recognition (IAPR).

Kenichi Kubota (co-chair)
Kansai University, Osaka, Japan

Professor Kubota is a Professor Emeritus at the Kansai University in Osaka, Japan. He received Ph.D. degree in Instructional Systems Technology from Indiana University in 1991. His research specialties include the design of learning environments using Web 2.0, participatory international development, communication in development, and educational technology. Professor Kubota has been actively organizing international collaborations on ICT education: “E-learning junior high schools in Latin America” with Peru and Costa Rica; “Fieldwork project with ICT educators” with Niger and Burkina Faso; “ICT education survey” with Australia; “Building the infrastructure of ICT” with the Philippines; “Improvement of the school curriculum for elementary schools” with Syria, among others. Professor Kubota is the former president of the Japan Association for Educational Media Study and a former trustee of the Japan Society for Educational Technology.
Youru Xie (co-chair)

South China Normal University, Guangzhou, China

Youru Xie is a professor and PhD supervisor in School of Educational Information Technology, South China Normal University, China. Prof. Xie serves as a Director of the Steering Committee of Online Open Courses for Universities in Guangdong Province, Executive Member of the Global Chinese Conference of Computer in Education (GCCCE), Executive Vice Chairman of the Intelligent Educational Technology Committee of the Artificial Intelligence Based Educational Technology (AIBET), and Chairman of the Educational Technology Committee of the Guangdong Higher Education Society.

WORKSHOP SESSION

Online Experiential Learning Efforts at Nihon Fukushi University - Discussion on Key Factors in Light of Online Interactive Outcomes

Makoto Kageto

Nihon Fukushi University

Nagoya, Japan

Abstract. This workshop focuses on online experiential learning. We will introduce our efforts to provide authentic experiences online, mainly focusing on international collaboration. Reflection on such experiences, we would like to discuss and look at the future of online experiential learning. It will also be appreciated if you share your experiences related to this topic.
PAPER SESSIONS

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Chair: Billy Tak-Ming Wong

Supporting Students' Reflection in Game-Based Science Learning: A Literature Review
Xiaotong Yang and Yang Liu

Peer-assessment enhanced collaborative learning in a virtual learning environment
Di Zou, Haoran Xie and Fu Lee Wang

Personalised learning in STE(A)M education: A literature review
Kam Cheong Li and Billy Tak-Ming Wong

Applying an intelligent learning partner in teacher education for improving CT-related TPACK
Zhenzhen He, Changqin Huang, Tao He and Kai Bo

Using Chatbots in Flipped Learning Online Sessions: Perceived Usefulness and Ease of Use
Khe Foon Hew, Weijiao Huang, Jiahui Du and Chengyuan Jia

The Customized Mathematic Instruction Supported by an Intelligent Tutoring System and Its Effect During the COVID-19 Epidemic
Jiyou Jia and Yanying Miao

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Roles interaction during mobile-blended collaborative learning: The impact of external scripts
Cixiao Wang

Students’ Evaluation of Performance-centred Blended Learning Assessment in Japan: Can-Do and Cannot-Do Notions
Terumi Miyazoe
Examining Beginners' Continuance Intention in Blended Learning in Higher Education
He Yang, Jin Cai, Harrison Hao Yang and Xiaochen Wang

Content Development for Blended Learning In Pharmaceutical Preparations
Narinee Phosri and Verayuth Lertnattee

Activity Design for Cultivating Students’ Journalistic Skills and Inquiry-mind in a Blended Learning Environment
Xiaohong Zhang, Kaoru Matsuyashi and Kenichi Kubota

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Chair: Heng Luo

COVID-19’s effects on the scope, effectiveness, and roles of teachers in online learning based on social network analysis: A case study
Yigang Ding, Xinru Yang and Yunxiang Zheng

Fading scaffolds for better online learning? A comparative analysis of three scaffolding practices
Xu Han, Heng Luo, Jiaxin Yang and Siyi Jiang

An Assessment Framework for Online Active Learning Performance
Caixia Liu, Di Zou, Wai Hong Chan, Haoran Xie and Fu Lee Wang

Relationships Among Online Teaching Design, Experience, and Perception of College Teachers During the Pandemic
Shiqian Gu, Xiaotong Yang and Wei Li

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Shinichi Sato and Makoto Kageto

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Chair: Simon K.S. Cheung

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Yuling Zhang and Juanjuan Chen
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*Yinghui Shi, Qiuya Pu, Ling Chen, Kexin Jia and Harrison Hao Yang*

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*Ivana Simonova, Ludmila Faltynkova and Katerina Kostolanyova*

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*Shudong Wang and Aipeng Chen*

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*K.S. Cheung*

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*Youru Xie, Yuling Huang, Yucheng Bai, Wenjing Luo and Yi Qiu*

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*Yuru Lin, Yi Zhang and Yichi Wang*

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*Ludmila Faltynkova, Ivana Simonova, Katerina Kostolanyova and Slavomira Klimszova*

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Qinna Feng, Ying Chen and Heng Luo

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Can Zuo, Xuan Wang, Jixin Wang, Jun Tian, Yongpeng Cui and Quan Zhou

Factors Influencing College Students’ Teaching, Social, and Cognitive Presence in Online Learning: Based on a National Survey
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Matthew Montebello

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