ICALT 2025

The 25th International Conference on Advanced Learning Technologies

July 14 – 17, 2025

Program Handbook

Hosted by

國立彰化師範大學
National Changhua University of Education

Conference Presentation

The 25th IEEE International Conference on Advanced Learning Technologies (ICALT 2025) is organized by IEEE Technical Committee on Learning Technology in Changhua, Taiwan with hybrid model.

Hosted by

National Changhua University of Education, Taiwan

Organized by

IEEE Technical Community on Learning Technology (https://tc.computer.org/tclt)

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Graduate Institute of Technology and Adolescent English, National Changhua University of Education, Taiwan

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Chat/Voice/Video Discussion Channel

See the last page for the details.

Keynotes

Title: Solving Primary School Math Word Problem based on understanding

Session 1-2A at 09:30 to 10:30 on July 14, 2025

Wen-Lian HSU
Asia University, Taiwan

Abstract: There has been a lot of research carried out on solving primary school math problems (PSMP). Most of this research is based on statistical, neural network, or LLM approaches, which could be less reliable. In this study, we investigate how to provide human-comprehensible knowledge to computers to solve PSMP. Such knowledge could also be used to guide students toward a deeper understanding of how to solve PSMP themselves.

For human beings, learning and memorization must go hand in hand. Therefore, the ability to solve a math problem depends on how effectively memory can be utilized. We propose the following problem-solving method for students, which is very similar to the way we train AI. To solve PSMP, a student should be able to translate a natural language sentence into a math formula (if there is any). Hence, it is important to distinguish (or classify) sentences that describe a scenario, which provides context but is not closely related to the calculation; the quantity of an object; the transfer of an object; the quantitative relationship between two objects, etc. Learning sentence types involves memorizing sentence patterns. Computers can remember abstract patterns, such as “Mary (person) went to school (place) this morning (time).” However, it is easier for humans to remember the actual meaningful sentences, because substitution (or association) seems to be an innate ability, and deriving abstract patterns from these sentences is transparent for humans.

For each sentence type, there is either a corresponding formula or none. In addition, a sentence could entail other meaningful sentences. For example, the sentence “Father bought two apples” could entail “Father has two more apples” and “Father spent money to buy two apples.” These entailed sentences could further produce additional formulas. This is one way common sense knowledge is encoded into various sentence types, since such knowledge usually does not appear literally.

When all sentence formulas are translated, we start constructing a formula network by connecting formula pairs that share at least one variable. Then, we gradually plug the numbers into the formulas through the network to solve for the unknowns. Such a strategy is performed by the computer. Later on, depending on the different ways to solve the problem, the computer will create solution trees to indicate the solution flow for students. For each solution path, a corresponding explanation can be generated. A lot of BERT and LLM tools are used in our sentence type classification and explanation generation.

Finally, instead of presenting the explanation directly to the students, our system will create a dialogue to assess whether the student truly understands how to solve the problem. For example, the system might test students on sentence types by letting them choose which example sentence is most similar or ask students what the most appropriate first step is to solve the problem. The purpose is to encourage students to think throughout the problem-solving process.

In summary, we aim to provide enough knowledge to train our AI system with the above capability. Hopefully, such a design will fulfill the goal of AI-assisted PSMP solvers.

Bio: Dr. Wen-Lian Hsu is a Chair Professor in the Department of Computer Science and Information Engineering at Asia University, Taiwan. He earned his Ph.D. in Operations Research from Cornell University and served as a tenured Associate Professor at Northwestern University before joining the Institute of Information Science at Academia Sinica, where he served as Director from 2012 to 2018.

Dr. Hsu’s early contributions focused on graph algorithms. In 1993, he developed a software system called GOING, which revolutionized Chinese input methods on computers in Taiwan. Building on similar semantic analysis techniques, he later advanced research in question answering and chatbot systems. Dr. Hsu is particularly renowned for applying natural language processing (NLP) techniques to Chinese language processing and biological literature mining. Under his leadership, his research team has achieved first-place rankings in numerous international competitions, including protein named entity

recognition (NER), biological relation extraction, recognition of inference in Chinese text, Chinese question answering, NER, and word segmentation.

Dr. Hsu's recent research focuses on advancing the deep understanding of natural language. His projects include commonsense reasoning in primary school mathematics, relation extraction for protein-protein interactions, and the annotation of electronic medical records.

Dr. Hsu has received many prestigious awards in recognition of his contributions to academic research. These include the Outstanding Research Awards from the National Science Council (NSC) in 1991, 1994, and 1996, the inaugural K. T. Li Research Breakthrough Award in 1999, the NSC Appointed Distinguished Research Fellow Award in 2005, the IEEE Fellowship in 2006, and the Teco Award in 2008. Additionally, he served as the President of the Artificial Intelligence Society of Taiwan from 2001 to 2002 and as the President of the Computational Linguistics Society of Taiwan from 2011 to 2012.

Title: Teaching soft skills via videos: AI-based support for engagements

Session 2-1A at 09:00 to 10:00 on July 15, 2025

Tanja MITROVIC
University of Canterbury, New Zealand

Abstract: Soft skills play a crucial role in our lives, and are critical for students in their education and for professionals in their careers. However, soft skills are challenging to teach as they require substantial time, practice and feedback from instructions. Video watching is one of the methods for teaching soft skills, as they allow the student to explore multiple viewpoints and reflect on their experience. Although learning from videos has many advantages, such as providing flexible, self-controlled learning opportunities, and raising students' motivation, watching videos can be a passive activity and result in shallow learning.

In this talk, I will present the approach we developed for teaching soft skills using the AVW-Space, a video watching platform. AVW-Space allows the teacher to select publicly available videos from YouTube and define a space for their students. Learning happens in two phases in the platform. In the first phase, students watch videos and write comments on them. The teacher can specify aspects for students to use when writing comments, which focus students' attention to important concepts in videos or to encourage students to self-reflect. In the second phase, the teacher can select some comments to open anonymously to the whole class, to review and rate. The teacher can specify rating categories to reinforce important activities, such as self-reflection. In addition to writing/rating comments, AVW-Space uses AI-based support in order to track the learner's behaviour and provide personalized nudges in order to improve engagement.

I will present the evolution of AVW-Space and various types of AI-based support we have added to it over the years. In early studies, when there was no support, half of the participants watched videos passively. To improve engagement via comment writing, extended the platform by adding a set of reminder nudges, which are given to students who are passively watching videos or not commenting on a variety of topics. Those nudges resulted in a significantly higher percentage of students writing comments. We then developed machine learning models which classify students' comments immediately after they are written into low, medium or high-quality comments. Based on these classification, AVW-Space provides additional nudges to students based on the quality of comments they write. We also added visualizations of students' activities, the comment quality and nudges, so that students can easily review their progress. The most recent studies show the effectiveness of theAI-based support: the vast majority of students are now active and writing high-quality comments, which result in increased learning.

Bio: Dr Antonija (Tanja) Mitrovic is a full professor and the Head of the Department of Computer Science and Software Engineering at the University of Canterbury, Christchurch, New Zealand. She is the leader of ICTG (Intelligent Computer Tutoring Group). Dr Mitrovic received her PhD in Computer Science from the University of Nis, Yugoslavia, in 1994. She is the past President of the Asia-Pacific Society for Computers in Education, and Past President of the International Society for Artificial Intelligence in Education. She is an associate editor of the following journals: International Journal on Artificial Intelligence in Education and Research and Practice in Technology Enhanced Learning (RPTEL). Tanja is a Distinguished member of ACM, Senio member of IEEE and AAAI. and a Fellow of the Asia-Pacific Society for Computers in education (ASPCE). She was awarded the Distinguished Researcher Award in 2011 by the Asia-Pacific Society for Computers in Education.

Dr Mitrovic's primary research interests are AI in education. ICTG has developed a number of constraint-based intelligent tutoring systems in a variety of domains, which have been thoroughly evaluated in real classrooms, and proven to be highly effective. These systems provide adaptive support for acquiring both problem-solving skills and meta-cognitive skills (such as self-explanation and self-assessment). Although most of the ITSs developed by ICTG support students learning individually in areas such as database querying (SQL-Tutor), database design (EER-Tutor and ERM-Tutor), data normalization (NORMIT), there are also constraint-based tutors for object-oriented software design and collaborative skills, various engineering topics (thermodynamics, mechanics), training to interpret medical images and language learning. ICTG has also developed ASPIRE, a full authoring and deployment environment for constraint-based tutors. Recent research includes using personalized nudges to improve engagement and learning outcomes in Video-Based Learning (VBL). ICTG developed AVW-Space, an online portal for VBL that provides personalized nudges to students.

Title: Impact of disruptive technologies and the vision for future of education

Session 4-3A at 11:00 to 12:00 on July 17, 2025

KINSHUK
University of North Texas, United States

Abstract: Recent advances in the technologies, particularly the emerging visualization technologies and generative AI, are changing the landscape of education. Many of these advancements have significant potential to be disruptive, bringing both excitement and concern. They can foster deeply engaged learning experiences by providing the affordances that were not possible before and provide means for continuously monitoring, assessing, and guiding students in their learning process to ensure they receive tailored support. These same advances also have potential for creating biased content, spreading false information, sharing private information by mistake, causing job loss, and raising questions about human dependency and accountability. This talk will look into the vision for future of education and investigate how to exploit these emerging technologies before they exploit us. We shall explore, instead of trying to stop the progress due to the various concerns, how we can make effective plans and rules to reduce those risks and take advantage of the opportunities such technologies bring to transform the current education, with constraints and safeguards in place to make learning process safe and reliable.

Bio: Dr. Kinshuk is the Dean of the College of Information and Full Professor of Learning Technologies at the University of North Texas. He also serves on the Board of Directors for iSchools – an international organization of around 130 universities focused on all aspects of research and teaching about information, and Board of Advisors for Dallas AI – the largest non-profit AI forum in North Texas with over 8000 members. Prior to that, he held the NSERC/CNRL/Xerox/McGraw Hill Research Chair for Adaptivity and Personalization in Informatics, funded by the Federal government of Canada, Provincial government of Alberta, and by national and international industries. He was also Full Professor in the School of Computing and Information Systems and Associate Dean of Faculty of Science and Technology, at Athabasca University, Canada. After completing first degree from India, he earned his Masters' degree from Strathclyde University (Glasgow) and PhD from De Montfort University (Leicester), United Kingdom. His work has been dedicated to advancing research on the innovative paradigms, architectures and implementations of online and distance learning systems for individualized and adaptive learning in increasingly global environments.

Panels

Women in Engineering Panel
Session 2-2A at 10:00 to 11:00 on July 15, 2025

Emerging Technologies in Education Panel

Session 3-5A at 14:00 – 15:00 on July 16, 2025

This panel brings together leading scholars from National Taiwan Normal University's (NTNU's) Institute for Research Excellence in Learning Sciences (IRELS) to share cutting-edge research on how emerging technologies including artificial intelligence is transforming education. The discussion spans from broad educational implications to specific applications in scientific inquiry, cognitive processes, and immersive learning experiences.

Host: Prof. Chun-Yen CHANG, Principal Investigator of IRELS

Emerging Technologies (ET) is revolutionizing education through innovative tools and methodologies that enhance learning experiences and improve educational outcomes. This panel features distinguished researchers from the Institute for Research Excellence in Learning Sciences at National Taiwan Normal University who will explore ET's multifaceted impact on modern education.

The panel will begin with a macro-level perspective from Prof. Tsai Chin-Chung, Editor-in-Chief of Computers & Education, who will examine how ET is reshaping traditional teaching paradigms and enhancing student motivation. Building on this foundation, Prof. Chang Hsin-Yi will demonstrate AI's applications in science education and interdisciplinary learning, followed by Prof. Yang Fang-Ying's insights into the cognitive dimensions of ET-supported learning tools. Finally, Prof. Lee Wen-Yu will showcase how ET integration with immersive technologies creates powerful new approaches to science education.

Together, these experts will provide a comprehensive exploration of ET's educational applications—from theoretical frameworks to practical implementations—aiming to inspire educators, researchers, and policymakers to effectively harness ET's potential while addressing its challenges in contemporary educational contexts.

Prof. Chin-Chung TSAI: ET Transformations in Educational Paradigms

As Editor-in-Chief of Computers & Education, Prof. Tsai will provide a broad overview of ET's impact on educational landscapes. His presentation will share how students and teachers conceptualize ET for learning. He will also address barriers and challenges faced by educators adapting to these transformations, setting the foundational context for the more specialized discussions to follow.

Prof. Hsin-Yi CHANG: AI-Enhanced Scientific Inquiry and Epistemic Agency

Building on Prof. Tsai's framework, Prof. Chang will focus on AI's role in science education, particularly in inquiry-based learning. She will introduce two science inquiry units for junior high school students, developed by her research team, in which AI is integrated as either a teammate or a teaching assistant. Her presentation will address a common issue: students' overreliance on AI tools to complete learning tasks with minimal effort, leading to limited learning and thinking. Drawing on design-based research, she will explore how students can be scaffolded within these units to take up epistemic agency in their use of AI, enhancing both their idea development and inquiry learning.

Prof. Fang-Ying YANG: Cognitive Processes and Epistemic Beliefs in ET-Supported Learning

Extending the conversation to cognitive dimensions, Prof. Yang will investigate how ET-supported learning tools affect students' cognitive processes. Drawing on her eye-tracking studies, she will demonstrate how ET influences attention, conceptual understanding, and reasoning performance. Her presentation will also explore the role of epistemic beliefs in learning with ET and their implications for educational design, bridging theoretical understanding with practical applications.

Prof. Wen-Yu LEE: Enhancing Science Learning through Immersive ET

This presentation discussed the educational potential of virtual technologies, with a particular focus on affective and metacognitive factors in Immersive Virtual Reality (IVR). Findings from studies involving elementary students using IVR for science learning will be presented. These studies investigate the interplay between IVR affordances, pedagogical design, and learners' engagement and science learning outcomes. Results suggest that incorporating metacognitive design can enhance student learning. Additionally, the studies examine how affective factors and learners' perceptions of VR influence engagement and learning outcomes. Notably, some perceived affective factors may hinder learning. The presentation concludes with suggestions for designing effective IVR-based instruction.

Presentation Guidelines

- All presentation date/time is at Taipei, Taiwan (UTC +8). Please refer to https://time.is/Taipei or https://www.timeanddate.com/worldclock/taiwan/taipei for finding the time difference that your local time may have.
- Presentation time for full papers will be 20 minutes plus 5 minutes for questions.
- Presentation time for short papers will be 15 minutes plus 5 minutes for questions.
- Discussion session includes two stages. In the first stage (**pitch** stage), each discussion paper's presenter will have 3 minutes **exactly** to give all participants a brief and clear idea of their research. Presenters can use **up to three slides** for the 3-minute presentation. After that, discussion paper's presenter
  - who attends in-person will have his/her own poster board (size **90 cm x 120 cm, portrait**) as well as breakout room
  - who attends online will have his/her own breakout room

  so participants can visit and discuss with the authors in more details.
- The format of the Doctoral Consortium is:
  - the first 1 hour: the PhD candidates present their work (each one will have 20 minutes for presentation + 5 minutes for questions);
  - the following 30 minutes: the mentorship with mentors; and
  - the last 5 minutes: wrap up.
- All presenters should get familiar with how to use **Cisco Webex** for their presentation.
- All of the presentations (except Doctoral Consortium and individual sessions for discussion papers) will be recorded and made available for the registered participants.
  NOTE: The IEEE copyright covers presentations.
  NOTE: If you don't want your presentation being recorded, please do write an email to **all PC chairs**, Dr. Scott Chen <scottchen(at)cc.ncue.edu.tw>, Dr. Ahmed Tlili <ahmed.tlili23(at)yahoo.com> and Dr. Rita KUO <rita.mcsl(at)gmail.com> **at least one day prior your session**.

Available ICALT Virtual Background for meetings

ICALT has the following four virtual backgrounds prepared for participants to use in their meetings freely. If you would like, you can download any of them and use them.

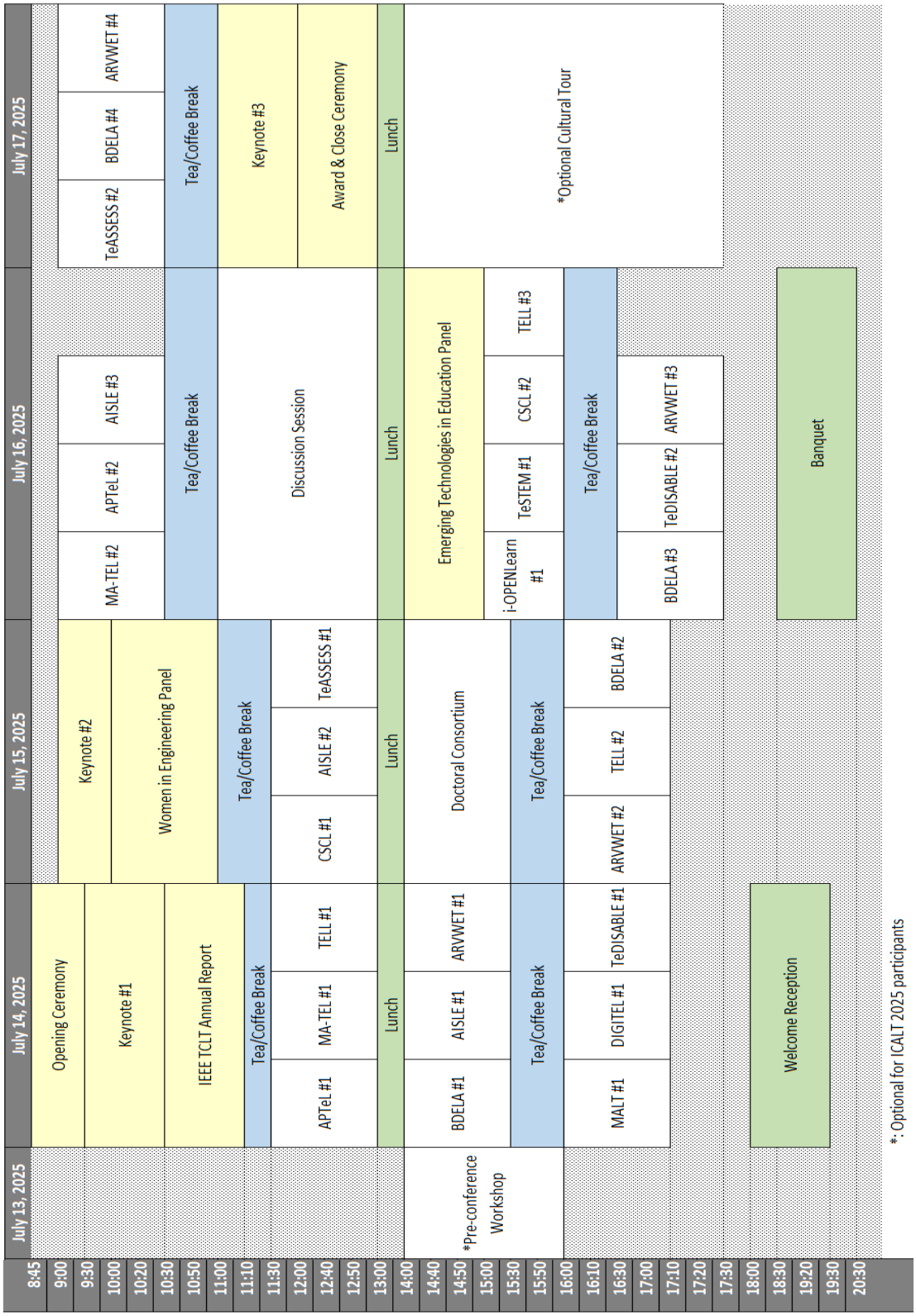
https://icalt.online/resource/icalt_vb_colorful.png

https://icalt.online/resource/icalt_vb_blue.png

https://icalt.online/resource/icalt_vb_yelloworange.png

https://icalt.online/resource/icalt_vb_purpleorange.png

Program at a Glance



Conference Agenda

July 14, 2025 (Monday) Schedule

08:45 – 09:30	**1-1A Opening Ceremony**	(Room T006)
09:30 – 10:30	**1-2A Keynote –** Wen-Lian HSU, Asia University, Taiwan Solving Primary School Math Word Problem based on understanding **Chair:** Maiga CHANG, Athabasca University, Canada	(Room T006)
10:30 – 11:10	**1-3A IEEE TCLT Annual Report** *Open for everyone* **Chair:** Rita KUO (IEEE TCLT Chair)	(Room T006)
11:10 – 11:30	**1-4L Tea/Coffee Break**	
11:30 – 13:00	**Conference Parallel Sessions** 1-5A APTeL #1 (Room T001) / 1-5B MA-TEL #1 (Room T002) / 1-5C TELL #1 (Room T005)	
13:00 – 14:00	**1-6L Lunch**	(Room T104-105)
14:00 – 15:30	**Conference Parallel Sessions** 1-7A BDELA #1 (Room T001) / 1-7B AISLE #1 (Room T002) / 1-7C ARVWET #1 (Room T005)	
15:30 – 16:00	**1-8L Tea/Coffee Break**	
16:00 – 17:10	**Conference Parallel Sessions** 1-9A MALT #1 (Room T001) / 1-9B DIGITEL #1 (Room T002) / 1-9C TeDISABLE #1 (Room T005)	
18:00 – 19:30	**1-10A Welcome Reception**	(B1 Square)

Session 1-5A APTeL #1

Time: July 14, 2025 (Monday) 11:30 – 13:00 **Location:** Room T001
Chair: Leo Sylvio RÜDIAN, Humboldt-Universität zu Berlin, Germany

1283S [In-person]
Recommender Methods for Computerised Adaptive Testing
Ho Yin Kwong and Gelareh Mohammadi

3647S [In-person]
The Meshing Hypothesis revised - An Experiment of Preference-based Personalization in a Language Learning Online Course
Sylvio Rüdian and Niels Pinkwart

4187F [Online]
Measuring the Effectiveness of Adaptive Virtual Reality Training on Learning Transfer
Fabio Genz, Marco D'Amelio and Dieter Kranzlmüller

4332S [In-person]
Applying Self-Consistency Prompting for Knowledge Tracing with Large Language Models
Insub Shin, Hyojun Lee, Yun Joo Yoo and Sang Yeon Jo

Session 1-5B MA-TEL #1

Time: July 14, 2025 (Monday) 11:30 – 13:00 **Location:** Room T002
Chair: Maiga CHANG, Athabasca University, Canada

1626S [In-person]
Analysis of the Visual and Acoustic Effects of a Teacher's Face Orientation Towards Students in Teaching
Keisuke Yoshida, Minori Tsuji, Katsumi Hama and Sadayoshi Mikami

3663S [Online]
Design and Evaluation of an AR-Based Heritage Learning System for Middle School Students
Xingyu Chen, Hao Fang and Seng Yue Wong

3679F [Online]
Students' Motivation in STEM Education through a Microelectronics Training Program: Through the Lens of the ARCS Model of Motivational Design
Yuanyuan Gu, Xinhao Xu, Chi-Ren Shyu, Syed Kamrul Islam, Sazia Eliza and Jim Flink

4785S [Online]
Mapping the Assessment of Student Engagement in TEL: an exploratory review
Mónica Aresta, Carlos Santos, Luís Pedro and Marisa Lousada

Session 1-5C TELL #1

Time: July 14, 2025 (Monday) 11:30 – 13:00 **Location:** Room T005
Chair: Darmawansah DARMAWANSAH, Providence University, Taiwan

1206F [In-person]
Developing an AI-Driven Contextualized Short Video Learning System for EFL Speaking and Writing
Hsin-Wei Chang, Yi-Fan Liu, Wu-Yuin Hwang and Wei-Chia Chen

3228S [Online]
Enhancing Next-Generation Language Models with Knowledge Graphs: Extending Claude, Mistral IA, and GPT-4 via KG-BERT
Nour El Houda Ben Chaabene and Hamza Hammami

3400S [In-person]
Improve&Explain: Leveling Up Essays and Providing Informative Feedback Based on Generative AI
Wei-Chin Lee, Cheng-En Hsu, Jo-Chi Hsiao, Hai-Lun Tu, Kai-Wen Tuan and Jason S. Chang

6327S [In-person]
Enhancing EFL Writing Through AI-Driven Video-to-Text Recognition in Authentic Learning Contexts
Yi-Fan Liu, Muhammad Irfan Luthfi and Wu-Yuin Hwang

Session 1-7A BDELA #1

Time: July 14, 2025 (Monday) 14:00 – 15:30 **Location:** Room T001
Chair: Jeremy Tzi Dong NG, The University of Hong Kong, Hong Kong
[BStPN]: Best Student Paper Nomination

0153S [In-person]
Towards Music Learning Analytics: The Case of Background Music in Virtual Reality Content Creation
Zuo Wang and Xiao Hu

0479F [Online][BStPN]
Multimodal Learning Analytics Using Wearable Devices in Immersive Virtual Reality Learning Environments: A Systematic Review on Learning Indicators and Ethical Considerations
Wenxiang Zhou, Xiao Hu and Wei Wei

1147S [Online]
Student Perspectives on Learning Analytics
Alice Lin, Areti Manataki and Angela Miguel

1942S [In-person]
WekiMusic: Machine Learning Music Activities to Foster Creative AI Education
Nora Patricia Hernandez Lopez and Xiao Hu

Session 1-7B AISLE #1

Time: July 14, 2025 (Monday) 14:00 – 15:30 **Location:** Room T002
Chair: Andy Nguyen, University of Oulu, Finland
[BFPN]: Best Full Paper Nomination
[BSPN]: Best Short Paper Nomination

1033S [In-person]
Evaluating Cognitive Performance through Prompt-Based Methods Using LLM in Education
Elvin Nur Furqon and Chia-Kai Chang

1037F [In-person][BFPN]
Mapping the Knowledge Construction Process through Interactions with an Embodied GenAI Agent In Mixed Reality
Andy Nguyen, Belle Dang, Faaiz Gul and Luna Huynh

1276S [Online]
A Study of Automatic Feedback Generation in Distance PBL Using Large Language Models
Kosuke Sasaki and Tomoo Inoue

2888S [In-person][BSPN]
Analysis of a Generative AI-Based Graphical Learning Assistance Tool in IPR Courses
Chen-Chieh Yen, Pei-Tsen Hsieh, Yu-Chieh Chen and Chia-Kai Chang

Session 1-7C ARVWET #1

Time: July 14, 2025 (Monday) 14:00 – 15:30 **Location:** Room T005
Chair: Andreas HARRER, University of Applied Sciences and Arts Dortmund, Germany

0365F [In-person]
"It's technology that gets us together" -- Exploring Teachers' Perspectives on the Use of HoloLens for Synchronous Hybrid Learning in Schools
Calkin Suero Montero, Xiaoran Han, Selma Auala, Sebastian Hahta, Erkki Rötkönen, Tomi'Bgt' Suovuo, Heike Winschiers-Theophilus and Erkki Sutinen

0921S [Online]
Enhancing Engineering Drawing Education: Insights from ENA and Student Feedback across Learning Modalities
Ajay Shankar Tiwari, Toluchuri Shalini Shanker Rao, Utanko Mitra and Kaushal Kumar Bhagat

2015S [Online]
VRTeaching: Mental and Psychophysiological Effects in Virtual Reality Remote Lectures
Florian Glawogger, Michael Holly, Janine Tasia Stang, Hanna Schumm, Fabia Lang, Emil Criscione, Jack *Dennis Pham, Verena Wagner-Hartl and Johanna Pirker*

2374S [Online]
Training teachers to design virtual reality games: an experience report
Laura Coura, Júlia Gonzaga, Reinaldo Fortes, Andrea Bianchi, Rone Ilídio, Jadson Gertrudes and Saul Delabrida

Session 1-9A MALT #1

Time: July 14, 2025 (Monday) 16:00 – 17:10 **Location:** Room T001
Chair: Andreas LINGNAU, German University of Applied Sciences (DHAW), Germany

2678F [Online]
Situated Cognition in Educational Mobile Apps: Does Physical Situatedness Help Learning?
Abhishek Kulkarni, Cecelia Albright and Sharon Lynn Chu

4527S [Online]
Addressing Ineffective Cultural Exchange and Language Immersion in India
Ria Sanghavi and Ajit Bhagat

4985S [Online]
Designing for Engagement: Usability Insights on a Mobile Mockup for Teacher-Curated Microactivities
Mariana-Madalina Nastase and Elvira Popescu

Session 1-9B DIGITEL #1

Time: July 14, 2025 (Monday) 16:00 – 17:10 **Location:** Room T002
Chair: Chao WANG, The University of Hong Kong, Hong Kong
[BFPN]: Best Full Paper Nomination

1453F [In-person][BFPN]
AI-Powered Personalized Robots with Digital Companions: Leveraging LLMs for Frequent Engagement, Ownership, and Sustained Learning
Vando Gusti Al Hakim, Akbar Satrio Gumelar, Su-Hang Yang, Jen-Hang Wang, Chih-Yang Peng and Gwo-Dong Chen

1480S [Online]
Investigating Gamification and Adaptive Learning Strategies for SQL Education
Hazra Imran, Jiahuan He and Janghyeon Lee

2685S [Online]
Groombuster: A narrative mini game to educate teenagers about online grooming
Paula Mateo-Gorina, Emily Theophilou, J. Roberto Sánchez Reina and Davinia Hernandez-Leo

Session 1-9C TeDISABLE #1

Time: July 14, 2025 (Monday) 16:00 – 17:10 **Location:** Room T005
Chair: Lorenzo Landolfi, Italian Institute of Technology, Italy

1921F [Online]
A Generative AI-Powered Chatbot for Enhancing Accessibility and Personalized Learning in MOOCs
Salwa Mrayhi, Mohamed Koutheair Khribi and Mohamed Jemni

4854F [In-person]
InSegno: AI-enhanced Platform for Inclusive and Accessible Learning with Sign Language
Andrea Senacheribbe, Lorenzo Landolfi, Alice De Luca and Monica Gori

5305S [Online]
RECMOOC4ALL: Bridging the Accessibility Gap in MOOCs
Salwa Mrayhi, Mohamed Koutheair Khribi and Mohamed Jemni

July 15, 2025 (Tuesday) Schedule

09:00 – 10:00	**2-1A Keynote –** Tanja MITROVIC, University of Canterbury, New Zealand Teaching soft skills via videos: AI-based support for engagement **Chair:** Andreas LINGNAU, German University of Applied Sciences – DHAW, Germany	(Room T006)
10:30 – 11:00	**2-2A Women in Engineering Panel** **Chair:** Fang Wang (University of Missouri, USA) **Panelists:** Yige CHEN (Australian National University, Australia), Xiao HU (University of Arizona, USA), Nora Patricia HERNANDEZ LOPEZ (The University of Hong Kong, Hong Kong), Tanja MITROVIC (University of Canterbury, New Zealand), Pei-Shu TSAI (National Changhua University of Education, Taiwan)	(Room T006)
11:00 – 11:30	**2-3L Tea/Coffee Break**	
11:30 – 13:00	**Conference Parallel Sessions** 2-4A CSCL #1 (Room T001) / 2-4B AISLE #2 (Room T002) / 2-4C TeASSESS #1 (Room T005)	
13:00 – 14:00	**2-5L Lunch**	(Room T104-105)
14:00 – 15:30	**2-6A Doctoral Consortium**	(Room T001)
15:30 – 16:00	**2-7L Tea/Coffee Break**	
16:00 – 17:00	**Conference Parallel Sessions** 2-8A ARVWET #2 (Room T001) / 2-8B TELL #2 (Room T002) / 2-8C BDELA #2 (Room T005)	

Session 2-4A CSCL #1

Time: July 15, 2025 (Tuesday) 11:30 – 13:00 **Location:** Room T001
Chair: Andreas HARRER, University of Applied Sciences and Arts Dortmund, Germany

0379S [Online]
Guided Inquiry Learning with Technology: Exploring the Impacts on Students
Patricia Campbell, Clif Kussmaul, Seth Campbell-Morton and Richard Moog

2538S [In-person]
The Impact of Robot-Assisted Picturebooks Reading on Kindergarteners' Social Emotional learning
Pei-Yi Chang, Nian-Shing Chen, Mei-Hsiu Chuo and Yawen Jeng

4347S [In-person]
Collaborative knowledge construction in virtual reality content creation: Insights from epistemic network analysis
Darmawansah Darmawansah

9812F [Online]
Analysing Teacher Orchestration Actions When Using Alerting and Mirroring Dashboards in CSCL
Lubna Hakami, Davinia Hernandez-Leo and Ishari Amarasinghe

Session 2-4B AISLE #2

Time: July 15, 2025 (Tuesday) 11:30 – 13:00 **Location:** Room T002
Chair: Oscar Karnalim, Maranatha Christian University, Indonesia
[BStPN]: Best Student Paper Nomination

6221S [In-person]
Learning by Doing in Promoting GAI Literacy
Oscar Karnalim, Adelia Adelia, Diana Trivena Yulianti, Doro Edi and Judea J. Jarden

8282F [Online][BStPN]
Learning Reduce & Reuse Waste Management Practices with Human-AI Collaboration
Qiming Sun and Sharon I-Han Hsiao

9030F [Online]
Interpersonal Communication Skills Training Platform for Teachers: Using Generative AI to Simulate Educational Conflict Resolution
Shanshan Li, Chengze Zeng, Junjie Shang, Yu Liu and Xiaomeng Wu

9426S [Online]
Obstacles or Opportunities: Teachers' Concerns about Adopting Generative AI in Learning and Teaching
Miao Yue, Morris Siu-Yung Jong and Yuting Chen

Session 2-4C TeASSESS #1

Time: July 15, 2025 (Tuesday) 11:30 – 13:00 **Location:** Room T005
Chair: Masanori YAMADA, Kyushu University, Japan

2720S [In-person]
Assessment and Feedback of Learning Strategies in AR Language Learning: Designing Learning Analytics Dashboard with Learning Prompts
Xuewang Geng and Masanori Yamada

2445F [In-person]
DW-Indicators: Assessing Learner's Draw & Write Artifacts with indicators extracted with LLMs.
Rwitajit Majumdar and Kyoko Shiga

8687F [In-person]
Quantifying Assessment Difficulty in GenAI-Enhanced Education: Integrating Reinterpreted RBT and SOLO Taxonomy
Yige Chen and Bernardo Pereira Nunes

8944S [Online]
MindMirror: A Digital Reflection Tool for Students
Luqman Syakir Adong, Fang Fang Chua and Amy Hui-Lan Lim

Session 2-6A Doctoral Consortium

Time: July 15, 2025 (Tuesday) 14:00 – 15:30 **Location:** Room T001
Chair: Andreas LINGNAU, German University of Applied Sciences – DHAW, Germany

0270DC [In-person]
Exploring Multidimensional Perceptions on a Virtual Reality (VR) Dining Experience for Autistic Individuals
Yu-Chia Kao and Nigel Newbutt

5607DC [In-person]
Competency-based Model for CS Education in the Era of AI
Yige Chen and Bernardo Pereira Nunes

Session 2-8A ARVWET #2

Time: July 15, 2025 (Tuesday) 16:00 – 17:10 **Location:** Room T001
Chair: Fang WANG, University of Missouri, USA

5864S [In-person]
Exploring Elementary Students' Perception and Engagement of Reading using an Augmented Reality Educational Technology Applicationz

Yu-Chia Kao, Macy Gathings Geiger, Nigel Newbutt, Jay Rosen, Rachel West, Kayla Sharp, Jason Arnold, Shaunté Duggins, Luiz Franco Giovanini and Elizabeth McConney

6380F [In-person]
Virtual Reality-Based Simulation for Emergency Nursing Education: Development and Pilot Study of a Cardiac Arrest Scenario
Amith Nalmas, Fang Wang, Knoo Lee, Scottie Murrell, Caleb White and Livia Fiebelkorn

6986F [Online]
Enhancing Student Self-Efficacy and Interest in Microelectronics through Immersive Virtual Reality in an Informal Learning Environment
Yupei Duan, Xinhao Xu, Fang Wang, Chi-Ren Shyu, Syed Kamrul Islam, Sazia Eliza, Jim Flink, Hao He, Shangman Li, Scottie Murrell, Amith Nalmas, Yuanyuan Gu and Mahmoud Almasri

Session 2-8B TELL #2

Time: July 15, 2025 (Tuesday) 16:00 – 17:10 **Location:** Room T002
Chair: Rwitajit MAJUMDAR, Kumamoto University, Japan
[BFPN]: Best Full Paper Nomination

2503F [In-person][BFPN]
Assessing a ChatGPT-Integrated EFL Program Through Self-Determination Theory and Technology Acceptance Model
Michiyo Oda, Haruno Koshida and Ryo Saito

7780F [In-person]
TPACK-Based VR Creation Course for Southern Min Dialect of Kinmen and Cultural Learning: Design and Effectiveness Analysis
Hsuan Li and Huiling Yang

7996S [Online]
Bridging Technology and Aging: Exploring SVVR's Impact on Elderly Language Acquisition and Motivation
Siao-Cing Guo

Session 2-8C BDELA #2

Time: July 15, 2025 (Tuesday) 16:00 – 17:10 **Location:** Room T005
Chair: Nora P. HERNANDEZ LOPEZ, The University of Hong Kong, Hong Kong
[BSPN]: Best Short Paper Nomination

7289S [In-person][BSPN]
Perceptions of Learning Analytics Dashboard and Their Associations with Online Professional Learning Outcomes for College Teachers in the Global South
Chao Wang, Xiao Hu and Nora Patricia Hernandez Lopez

8404S [In-person]
Exploring the Functions of Learning Analytics Dashboard that Supports Students from Both the Perspective of Self-Regulated Learning and Career Planning
Kae Nakaya, Shizuka Shirai and Masayuki Murakami

9460S [Online]
chatgptscrapeR: A Tool for Retrieving Student-AI Interactions
Sonsoles López-Pernas, Kamila Misiejuk, Jelena Jovanovic, Miroslava Raspopović Milić, Miguel Ángel *Conde and Mohammed Saqr*

July 16, 2025 (Wednesday) Schedule

09:00 – 10:30	**Conference Parallel Sessions** 3-1A MA-TEL #2 (Room T001) / 3-1B APTeL #2 (Room T002) / 3-1C AISLE #3 (Room T005)
10:30 – 11:00	**3-2L Tea/Coffee Break**
11:00 – 13:00	**3-3A Discussion Session** (Pitch: Room T005; Poster: B1 Square)
13:00 – 14:00	**3-4L Lunch** (Room T104-105)
14:00 – 15:00	**3-5A Emerging Technologies in Education Panel** (Room T006) **Chair:** Chun-Yen CHANG (Institute for Research Excellence in Learning Sciences, Taiwan) **Panelists:** Chin-Chung TSAI (National Taiwan Normal University, Taiwan), Hsin-Yi CHANG (National Taiwan Normal University, Taiwan), Fang-Ying YANG (National Taiwan Normal University, Taiwan), Wen-Yu LEE (National Taiwan Normal University, Taiwan)
15:00 – 16:00	**Conference Parallel Sessions** 3-6A i-OPENLearn #1 (Room T001) / 3-6B TeSTEM #1 (Room T002) / 3-6C CSCL #2 (Room T004) / 3-6D TELL #3 (Room T005)
16:00 – 16:30	**3-7L Tea/Coffee Break**
16:30 – 17:30	**Conference Parallel Sessions** 3-8A BDELA #3 (Room T001) / 3-8B TeDISABLE #2 (Room T002) / 3-8C ARVWET #3 (Room T005)
18:30 – 20:30	**3-9L Banquet** (at Fort Hotel Changhua, out of campus)

Session 3-1A MA-TEL #2

Time: July 16, 2025 (Wednesday) 09:00 – 10:30 **Location:** Room T001
Chair: Maiga CHANG, Athabasca University, Canada
[BFPN]: Best Full Paper Nomination

4921F [In-person][BFPN]
Profiling Readers in Multiple-Text Reading: Affective Engagement, Metacognition, and Mediation Effects
Zheng-Hong Guan, Sunny San Ju Lin and Li-Fang Hsu

5287S [In-person]
How Achievement Goals Are Associated with Metacognition in Computer-simulated Engineering Design
Juan Zheng and Shan Li

5445S [Online]
Enhancing MOOC Course Series: Insights on Interactive Content and Engagement
Zuhra Sofyan and Christoph Meinel

7690S [Online]
The Effects of Gamification on Students' Emotions: A Controlled Experimental Study
Wilk Oliveira, Pasqueline Scaico, Juho Hamari, Leonardo Tortoro Pereira and Alexandre Jun Hayasaka

Session 3-1B APTeL #2

Time: July 16, 2025 (Wednesday) 09:00 – 10:30 **Location:** Room T002
Chair: Chao WANG, The University of Hong Kong, Hong Kong

4866F [Online]
The Integration of AI-Personalized Learning Assistant (AI-PLA) to Support Pre-service Teachers
Siska Wati Dewi Purba and Muhammad Irfan Luthfi

6378S [In-person]
A Concept for Modeling Adaptive Learning Mechanisms for Learning Management Systems
Sebastian Kucharski

7020F [Online]
Research Gaps in Adaptive Virtual Reality Training: A Systematic Literature Review
Fabio Genz, Tobias Büttgen and Dieter Kranzlmüller

7266S [In-person]
Designing a Scaffolding Framework to Support 'Sliding Term' Online University Courses
Andreas Lingnau, Sarah Schneeweiß and Andreas Harrer

Session 3-1C AISLE #3

Time: July 16, 2025 (Wednesday) 09:00 – 10:30 **Location:** Room T005
Chair: Andy Nguyen, University of Oulu, Finland

2933F [In-person]
Exploring the Impact of Transparent Generative AI on Learning Outcomes through a Human-Machine Trust Model
Feng Hsu Wang

4194S [In-person]
From Competence to Performance: Investigating AI Agent as a Statistical Learning Companion and the Role of Procrastination in AI Usage
Yi-Chen Juan, Yong-Qing Yang, Yuan-Hsuan Lee and Jiun-Yu Wu

5219S [In-person]
Teaching Practice and Evaluation Using a Generative AI-Based Instructional Support Tool
Norihiro Mukaida, Kento Tsutsumi, Yuji Amakawa, Shigeki Ahama, Mitsuru Nakata and Ryo Takaoka

6830F [Online]
Investigating the Division of Labour in Student-AI-Collaboration on Critical Thinking Tasks
Sabine Seufert, Kira Rohwer and Andri Zimmermann

Session 3-3A Discussion Session

Time: July 16, 2025 (Wednesday) 11:30 – 13:00 **Location:** Pitch: Room T005; Poster: B1 Square
Chair: Andreas LINGNAU, German University of Applied Sciences – DHAW, Germany

- **Pitch** Stage: **3-Minute presentations** from authors of each paper
- **Interaction** Stage: Each in-person participating paper has its own poster board and each online participating paper has its own breakout room.

0615D [Online]
Unveiling the Evolution and Trend Prediction of Large Language Models in Education: A Review Using BERTopic and LSTM Modeling
Xinyi Wu, Qinglin Zhang and Fengkuang Chiang

0737D [In-person]
Learning Path Recommendation System for Resolving Skill Gap of Engineers
Masaaki Maeda

1027D [In-person]
Blockchain-based Assessment System Proposal for Personalized Learning Pathways
Pham-Duc Tho, Nguyen-Anh Tu, Vu-Hong Son, Do-Anh Tuan, Nguyen-Nhu Tung

1128D [In-person]
Using 3D Point Cloud Data of Disaster-devastated Area for Disaster Education
Hiroyuki Mitsuhara, Ryoichi Yamanaka, Maya Matsushige and Yasuori Kozuki

1184D [Online]
SHIELD-ing Education: On-Device AI for Equitable, Offline Computing Education
Sai Gattupalli and Poulomi Chakravarty

1351D [In-person]
AI Integration in Vietnamese Primary Education: Educator Perspectives and Implementation Challenges
Pham-Duc Tho and Chih-Hung Lai

2531D [Online]
Web-based Similarity Detector for Identifying Programming Plagiarism
Oscar Karnalim, Yehezkiel David Setiawan, Rossevine Artha Nathasya and Femmy Friscilla Susilo

2626D [In-person]
Smart Learning Environment for Business English: The Impact of AI-Based Tools in the Classroom
Yun-Sin Chuang and Ruei-Teng Hung

3748D [Online]
AIQUIZ: An Open-Source Artificial Intelligence Multiple-Choice Question Generation Platform
Enrique Barra Arias, Javier Conde Díaz, Anabel Pilicita Garrido, Alejandro Pozo Huertas, Sonsoles López-*Pernas and Pedro Reviriego Vasallo*

4243D [Online]
Experimental Analysis of Coding Methodology Improvement through Programming Exercises
Yasuhiro Noguchi, Yasuhiro Mashiyama, Satoru Kogure, Raiya Yamamoto, Koichi Yamashita and *Tatsuhiro Konishi*

4566D [Online]
SimuLyte: A Generative Simulated Learner in Bloom's Taxonomy
Narges Shahhoseini, Fattaneh Taghiyareh, Mehrzad Mozaffari and Marzieh Alidadi

4677D [Online]
SVVR-Enhanced Cultural Learning: Relationship between Students' Sense of Presence and Motivation
Yuting Chen, Morris Siu-Yung Jong, Miao Yue and Ming Li

4681D [Online]
Unveiling the Writing Self-efficacy and its Relationship with Writing Engagement based on Generative AI feedback
Heng Zhang, Jing Zhang and Yanan Zhao

5760D [In-person]
Using AI Voices to Enhance Accent Recognition Skills in EFL Learners: A Strategy for Better TOEIC Listening Outcomes
Ruei-Teng Hung and Yun-Sin Chuang

5925D [Online]
Mathematics Mobile Computer-Supported Collaborative Learning as a Field of HCI Research
Rex Bringula, John Paul Miranda and Francis Arlando Atienza

5945D [Online]
From Deficit to Asset: Integrating Funds of Knowledge in Knowledge Tracing
Christopher Edema Mesiku and Bernardo Pereira Nunes

6073D [Online]
Design of a Framework for Integrated Evaluation Model of Metacognition and Deeper Learning in the Perspective of AIED
Jingwei Liu, Xiaoqing Gu and Misook Heo

7556D [Online]
"Sustainable Planet - Mission Preserve": A Serious Game to Solid Waste Management Awareness
Laura Ferreira Bezzera, Leonardo Tortoro Pereira and Wilk Oliveira

8741D [In-person]
ChatGPT Use and Graduate Students' Thesis Writing Quality: A Positive Correlation
Sandy I Ching Wang and Eric Zhi Feng Liu

8976D [Online]
A Systematic Mapping of Large Language Models as Feedback provider in Higher Education
Eyman Alyahyan, Mireilla Bikanga Ada and Jake Lever

Session 3-6A i-OPENLearn #1

Time: July 16, 2025 (Wednesday) 15:00 – 16:00 **Location:** Room T001
Chair: Jeremy Tzi Dong NG, The University of Hong Kong, Hong Kong
[BFPN]: Best Full Paper Nomination

2523F [Online][BFPN]
Conceptual Design of Teacher Intelligent Dashboard for Assessment Tracking (TIDAT)
Ghada Ben Khalifa, Lilia Cheniti Belcadhi and Alicia García-Holgado

2717F [In-person]
Exploring the Design of Learner Control in Pedagogical Conversational Agents (PCAs) and Its Effect on Student Learning
Xuening Peng, Roshan Venkatakrishnan, Alexandre Gomes de Siqueira and Benjamin Lok

Session 3-6B TeSTEM #1

Time: July 16, 2025 (Wednesday) 15:00 – 16:00 **Location:** Room T002
Chair: Rita Kuo, Utah Valley University, USA

5910F [In-person]
Assessing the Ability to Read and Interpret Mathematical Definitions: Insights from ReaDMath
Teiko Arai, Naoya Todo, Koken Ozaki and Noriko Arai

7573S [Online]
Narrative-Driven Gamification in Data Structures and Algorithms Learning Projects
Patricia Santos and Ariel Ortiz

Session 3-6C CSCL #2

Time: July 16, 2025 (Wednesday) 15:00 – 16:00 **Location:** Room T004
Chair: Andreas LINGNAU, German University of Applied Sciences (DHAW), Germany

3616F [In-person]
Bridging Virtual and Real: A Comparison of Mixed Reality and 2D Video Conferencing for Embodied Collaboration in Distance Education
Xiaoran Han, Maryam Teimouri, Sebastian Hahta, Calkin Suero Montero, Tomi Bgt Suovuo and Erkki Sutinen

5797F [In-person]
Enhancing Peer Interaction Quantity and Quality: Impact of Behavior, Engagement, and Knowledge
Yu-Tung Chen, Peixuan Jiang, Changhao Liang and Hiroaki Ogata

Session 3-6D TELL #3

Time: July 16, 2025 (Wednesday) 15:00 – 16:00 **Location:** Room T005
Chair: Alice Mei-Rong CHEN, Soochow University, Taiwan

8296S [In-person]
Supporting Second Language Acquisition with Artificial Intelligence and Augmented Reality
Andreas Kissmehl, Mikhail Fominykh, Fridolin Wild and Tormod Aagaard

8384S [Online]
The Effects of Gamification on Students' Gameful Experience According to Their Age: A Quasi-Experimental Study
Luiz Oliveira da Silva Junior, Wilk Oliveira and Samuli Laato

9274S [Online]
Generative AI for Early Grade Story Generation using a Self-Reflective Approach
Taufiq Syed, Aadhith Shankarnarayanan, Yara Kaddoura, Salsabeel Shapsough, Imran Zualkernan and Ekaterina Kochmar

Session 3-8A BDELA #3

Time: July 16, 2025 (Wednesday) 16:30 – 17:30 **Location:** Room T001
Chair: Boxuan MA, Kyushu University, Japan
[BFPN]: Best Full Paper Nomination

8064F [In-person][BFPN]
Student-facing Learning Analytics Dashboard for Collaborative Virtual Reality Content Creation
Zuo Wang and Xiao Hu

9625S [In-person]
Problem-Solving Strategies for High and Low Achievers in Statistical and Analytical Tasks: A Screenomics Approach
An-Ching Shih, Yuan-Hsuan Lee and Jiun-Yu Wu

Session 3-8B TeDISABLE #2

Time: July 16, 2025 (Wednesday) 16:30 – 17:30 **Location:** Room T002
Chair: Pham Duc THO, Vietnam National University Hanoi, Vietnam

8735F [In-person]
Extracting and Structuring Textbooks for Inclusive Education: A Computer Vision Approach
Mohamed Amine Lasheb, Olivier Pons, Mohammed Bekkouche, Élise Lincker, Isabelle Barbet and Caroline Huron

9499S [Online]
A roguelike deckbuilder serious game to help acquire sign language vocabulary in Libras
Leonardo Tortoro Pereira, Wilk Oliveira and Alexandre dos Anjos de Souza

Session 3-8C ARVWET #3

Time: July 16, 2025 (Wednesday) 16:30 – 17:30 **Location:** Room T005
Chair: Andreas HARRER, University of Applied Sciences and Arts Dortmund, Germany

8385S [Online]
Enhanced VR Learning with Dynamic Somatosensory Feedback to Assist in Understanding the Dynamic Process of Blood Circulation
Fuwei Dong, Anran Meng, Xiaoming Chen, Chen Wang and Vera Chung

9473F [In-person]
Integrating Physical Object Manipulation, Sensory-Motor Feedback, and AI-Driven Multimodal Assessment in Situated Extended Reality: Enhancing Reflection and Skill Acquisition
Hui-Ting Liu, Su-Hang Yang, Jia-Jun Ren, Jen-Hang Wang, Yung-Yu Zhuang and Gwo-Dong Chen

July 17, 2025 (Thursday) Schedule

09:00 – 10:30	**Conference Parallel Sessions** 4-1A TeASSESS #2 (Room T001) / 4-1B BDELA #4 (Room T002) / 4-1C ARVWET #4 (Room T005)	
10:30 – 11:00	**4-2L Tea/Coffee Break**	
11:00 – 12:00	**4-3A Keynote –** KINSHUK, University of North Texas, United States Impact of disruptive technologies and the vision for future of education **Chair:** Yu-Ju LAN, National Taiwan Normal University, Taiwan	(Room T006)
12:00 – 13:00	**4-4A Award & Close Ceremony**	(Room T006)
13:00 – 14:00	**4-5L Lunch**	(Room T001-002)
13:30 –	**Optional Cultural Tour**	

Session 4-1A TeASSESS #2

Time: July 17, 2025 (Thursday) 09:00 – 10:30 **Location:** Room T001
Chair: Pham Duc THO, Vietnam National University Hanoi, Vietnam

0513F [In-person]
Auto-Generating Analytic Rubrics for criteria-oriented High-Information Feedback
Sylvio Rüdian

0577S [Online]
Are Large Language Models Smart Enough for SQL Tutoring and Assessment?
Kallol Naha, Yakin Rubaiat and Hasan Jamil

2294S [In-person]
AI-Generated Feedback in Higher Education: The Tool for Analytic Rubrics
Sylvio Rüdian, Jakub Kužílek, Claudia Ruhland, Yassin Elsir, Marvin Kretschmer, Julia Podelo and Niels Pinkwart

6571S [In-person]
VR-Based Assessment for Picture-Book Storytelling Training: A Preliminary Research
Masanori Yamada, Wataru Aiura and Shogo Fukushima

Session 4-1B BDELA #4

Time: July 17, 2025 (Thursday) 09:00 – 10:30 **Location:** Room T002
Chair: Pedro Manuel MORENO MARCOS, Universidad Carlos III de Madrid, Spain

2250F [Online]
Classifying Knowledge Nodes and Analyzing Activation Features: An Integrated Knowledge Graph Approach for Collaborative Problem-Solving
Li Chen, Gen Li, Boxuan Ma, Cheng Tang, Masanori Yamada and Atsushi Shimada

6165S [In-person]
Connect E-book Content and Structure to Student Jump-Back Behavior
Boxuan Ma, Min Lu, Li Chen and Masanori Yamada

7180S [In-person]
Integration of multiple sources to anticipate student performance using learning analytics
Pedro Manuel Moreno-Marcos, Carlos García Antolín, Carlos Alario-Hoyos, Pedro J. Muñoz-Merino and *Carlos Delgado Kloos*

8780S [Online]
Institutional, Academic, and Learning Analytics: a bibliometric study
Francielle Marques, Ariel Ortiz-Beltran, Davinia Hernandez-Leo and Carlos Castillo

Session 4-1C ARVWET #4

Time: July 17, 2025 (Thursday) 09:00 – 10:30 **Location:** Room T005
Chair: Yu-Ju LAN, National Taiwan Normal University, Taiwan
[BFPN]: Best Full Paper Nomination

2671S [In-person]
A Preliminary Investigation on Bullying Bystanders' Attention by Using Eye-Tracking in a 360-degree Virtual Reality Environment
Chia-Yun Chang, Fu-Sung Hsu and Yih-Lan Liu

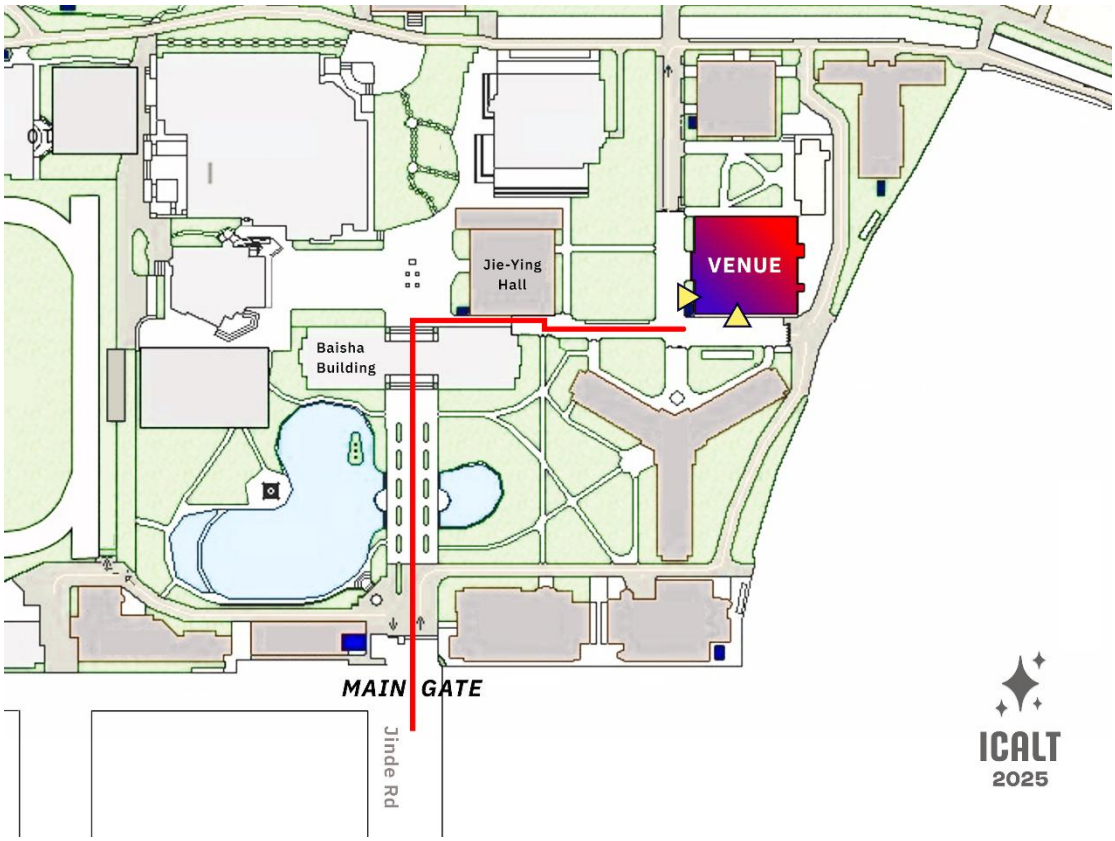
2887F [Online][BFPN]
Beyond the Screen: Enhancing Augmented Reality Collaborative Inquiry with Social Scripts
Xinyue Jiao, Hainachuan Huang, Zifeng Liu, Su Cai and Ziyan Fan

6663S [Online]
A virtual reality system for living technology processing machines combined with an expert system
Yuan-Chi Soon and Ting-Chia Hsu

7914S [Online]
Assessing the Effectiveness of Augmented Reality in Teaching the Solar System to Primary Students in Rural Primary School of Pakistan
Shahzaib, Boyang Sun, Haixia Li, Yuxin Tan and Su Cai

Venue Information

The conference event will be hosted at Academic Main Hall (Teaching Building) at National Changhua University of Education in Changhua, Taiwan (No. 1, Jinde Rd., Changhua City, Changhua County 500207, Taiwan).



Direction

1. Enter the campus from the main gate.
2. Walk through the palm boulevard and pass through the hallway of Baisha Building.
3. Turn right immediately before reaching Jie-Ying Hall.
4. Keep going straight and pass the hall and a block of grass area.
5. You will arrive at the venue (**Academic Main Hall**), which is marked in red on the map.

Pre-conference Workshop

Broadening participation in computing is central to the goals of the IEEE Computer Society and all of its conferences. The ICALT, sponsored by the Technical Community of Learning Technology (TCLT), follows the guidance in IEEE Computer Society which support technological innovation in educational technology area. The pre-conference workshop, technical sponsored by the research team of Prof. Jon-Chao Hong, accelerate the usage of educational apps and VR systems in teaching and learning to the local K-12 teachers and students. We encourage ICALT participants to visit the workshop and have discussion with the workshop leaders regarding their success.

Note: This workshop is delivered in Chinese

Integrating VR and Educational Apps into Learning with Fun: A Path toward Game-based Learning

A formal game involves rule-based symbolic manipulation and cognitive processing, often under time constraints or competitive conditions. While games can be engaging, excessive entertainment may hinder reflection and deep learning. Fun and learning exist on a continuum—too much fun can limit cognitive development, whereas overly instructional games may fail to sustain interest. The core challenge for educational game designers is to strike an effective balance. To meet this challenge, Professor Hong's team has developed educational apps and VR experiences that encourage students to actively construct knowledge and skills.

Professor Jon-Chao Hong, Director of the Digital Game-Based Learning Lab at National Taiwan Normal University (NTNU), has long been committed to integrating digital technologies with the learning sciences. Over the past few years, his team has developed more than 20 educational game apps and a variety of immersive VR learning systems to support students' knowledge acquisition and skill development. In addition, Professor Hong has recently developed AIoT (Artificial Intelligence and Internet of Things) game-based learning platforms that promote cognitive engagement, social interaction, and hand-eye coordination through multiplayer collaboration and competition.

This workshop will showcase his research-driven instructional designs within virtual learning environments, highlighting how immersive technologies and educational apps can create multisensory, interactive, and future-ready educational experiences. To conclude the session, participants will engage in hands-on exploration of selected educational apps and VR systems developed by Professor Hong's team, gaining practical insight into the pedagogical applications and learning impact.

Application Information

- ICALT 2025 - VR Introduction
- ICALT 2025 - App Introduction

Location

- Room T002, Academic Main Hall (Teaching Building) at National Changhua University of Education

Time

- 2 PM to 4 PM on July 13, 2025 (Sunday)

Sponsor

- 教育遊戲好好玩 (https://youtube.com/@hong506?si=9bVVA1UyaBZSdbV8)

Optional Cultural Tour – A Walk through Lukang's Historic Heritage

We are planning a half-day cultural tour to Lukang during ICALT 2025. This tour will include visits to historical sites like Longshan Temple and Tianhou Temple, and time to enjoy local street food.

🗓️ Date: Thursday, July 17, 2025

🕜 Meeting Time & Location: 1:30 PM at the Main Gate, NCUE (National Changhua University of Education)

🚌 Transportation: Chartered Bus (Return drop-off: Changhua or Taichung)

💰 Tour Fee: NT$890

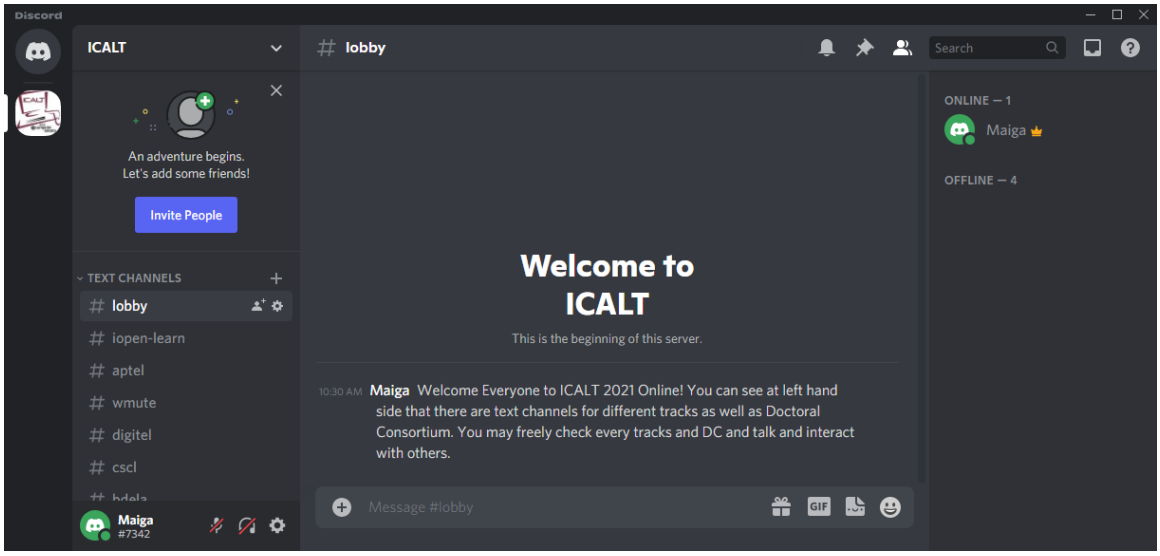
👥 Minimum Participants: 8 people

Registration Form: https://reurl.cc/j90Dpp

Registration for the half-day tour to Lukang is open until **July 4**. Once the tour is confirmed, please pay the tour fee of NT$890 directly to the travel agency staff on the afternoon of July 17.

Chat/Voice/Video Discussion Channel：

ICALT is using Discord (https://discord.com/) that supports text-based, speak-to-text, voice, video and group-based video and desktop sharing meetings. You could register an account for **FREE** to use it. Although you can also use it without an account but you will lose your accessibility to any joined channels or servers when you close your browser or Discord app, so it would be recommended to register an account with one of your alternative email. Please use the invite link https://discord.gg/BZh3weQwCF to join ICALT



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