WS01: 4th International Workshop on Embodied Learning:Technology Design, Analytics & Practices

Monday, November 25

09:00–10:30	WS01-1
W01-004F	**Exploring Cognitive Engagement in AI-driven Adaptive Psychomotor Sport Training** *Miguel PORTAZ, Rwitajit MAJUMDAR, and Olga C. SANTOS*
W01-005F	**Exploring Graph Slopes Through a Series of Embodied Learning Experiences** *Priyadharshni ELANGAIVENDAN, Melwina ALBUQUERQUE, Shizuka DARA, and Sanjay CHANDRASEKHARAN*
10:50–12:20	WS01-2
W01-006F	**Unpacking interaction Markers of Critical Thinking** *Aditi KOTHIYAL, Rwitajit MAJUMDAR, Shitanshu MISHRA, Jayakrishnan Madathil WARRIEM, and Prajakt PANDE*
W01-007F	**Actions and interactions at collaborative engineering design hackathon: Looking through the lens of embodied cognition** *Soumya NARAYANAN, Navneet KAUR, and Rwitajit MAJUMDAR*
W01-008F	**Designing an AI-Enhanced Timeline for Monitoring Multimodal Interactions in Embodied Learning Environments** *Joyce FONTELES, Namrata SRIVASTAVA, Eduardo DAVALOS, Ashwin T S, and Gautam BISWAS*

WS02: The 13th International Workshop on ICT Trends in Emerging Economies (WICTTEE 2024)

Tuesday, November 26

09:00–10:30	WS02-1

<div align="center">*TO BE ANNOUNCED SOON*</div>

WS03: Analysis and Design of Problems/Questions in the Digital Environment: The 17th Workshop on Technology Enhanced Learning by Posing/Solving Problems/Questions

Monday, November 25

09:00–10:30	WS03-1
W03-002	**Question Generation Support System Using Others' Research Frames** *Daiki MAEDA, Kota KUNORI, and Tomoko KOJIRI*
W03-005	**Learning Effectiveness and Reflections on AI Literacy in Junior High School Students with Game-Based Learning and Problem-Based Learning** *Shih-Hua HUANG and Ting-Chia HSU*
W03-009	**Does Experience of Feedback Generation Promote Student Novel Problem Posing? An Empirical Study in a Database Course** *Kazuaki KOJIMA*
10:50–12:20	WS03-2
W03-004	**Difficulty-Controllable Reading Comprehension Question Generation Considering the Difficulty of Reading Passages** *Yuto TOMIKAWA and Masaki UTO*
W03-006	**Iterative Problem Solving in the Integration of Design Thinking and Game-Based Learning into Enhancing Computational Thinking and AI Literacy** *Tai-Ping HSU and Ting-Chia HSU*
W03-007	**Design and Development of a Stepwise Learning Environment for Problem Posing of Arithmetic Word Problem** *Yusuke HAYASHI, Nagito YAMAMOTO, Susumu SHIMAKAWA, and Tsukasa HIRASHIMA*

WS04: The 8th Computer-Supported Personalized and Collaborative Learning

Tuesday, November 26

09:00–10:30	WS04-1
W04-003 F	**Investigating the Impact of Cooperative Group Learning on Blended Teaching and Learning Outcomes: A Case Study of Sixth-grade Students in an Elementary School** *De Jun MO and Joni Tzuchen TANG*
W04-008 F	**Investigating Students' Online Learning Perception through the Lens of Constructivism** *May Marie P. TALANDRON-FELIPE, Kent Levi A. BONIFACIO, and Gladys S. AYUNAR*
W04-001 S	**Integrating Virtual Environment in Teaching Courses** *Chiu-Jung CHEN and Pei-Lin LIU*
10:50–12:20	**WS04-2**
W04-007 F	**Investigating the Role of AI Book Discussion Companions in Enhancing Student Performance: A Pilot Study on Self-Efficacy** *Yi-Cheng TSAI, Chang-Yen LIAO, and Hsiao-Tung YANG*
W04-013 F	**Investigation of skills training system using TF-IDF for the plasterer's skeletal data** *Ryota TANAKA, Naka GOTODA, Lee SAERON, Ryo KANDA, Ayaka HUNABIKI , Hirotake KANISAWA, Kanae KANDA, Yuka TAKAI, and Toshihiro HAYASHI*
W04-002 S	**The Trends in Computer-Supported Virtual Reality Collaborative Learning** *Ching-Yi CHANG and Cheng-Huan CHEN*
13:20–14:50	**WS04-3**
W04-012 F	**Addressing Public Speaking Anxiety with an AI Speech Coach** *Frederick Voltair GARCIA, Jr., Nicanor Froilan PASCUAL, Miguel Elijah SYBINGCO, and Ethel ONG*
W04-004 S	**Combining Interest-Driven Creator Theory with Peer Assessment Digital System: A Method for Enhancing EFL Learners' English Oral Skills** *Chih-En KUO, Charles Y. C. YEH, and Tak-Wai CHAN*
W04-005 S	**Exploring the Impact of Integrating Auto-Photography and Imagery Strategies into Computer-Supported Collaborative Learning: A case Study in a General Education Course on Climate Change** *Wen-Lung HUANG and Chia-Jung CHANG*
W04-010 S	**Developing an LLM-empowered Agent to Enhance Student Collaborative Learning through Group Discussion** *Sixu AN, Yicong LI, Yu YANG, Yunsi Tina MA, and Guandong XU*
15:10–17:00	**WS04-4**
W04-006 S	**Exploring the Effect of Collaborative Programming Learning Environment on Student's Computer Programming Competencies and Cognitive Learning** *Chia-Jung CHANG and Wen-Lung HUANG*
W04-009 S	**Investigating the Impact of Kahoot! on EFL Grammar Learning** *Jonathan Y. CHIN and Ben CHANG*
W04-011 S	**Designing an LLM-based Dialogue Tutoring System for Novice Programming** *Julieto PEREZ and Ethel ONG*

WS06: GenAI in Education - From Hallucinations to Reality: Integrating Learning Analytics and Generative AI for Enhancing Personalized Learning Experiences

Tuesday, November 26

09:00–10:30	WS06-1
W06-001 F	**Analyzing teacher-student dialogues in online one-on-one primary mathematics tutoring: A lag sequential analysis of group differences** *Gary CHENG, Bo JIANG, Daner SUN, Ming GAO, and Zhixuan SONG*
W06-004 F	**Supporting Teacher-Student Book Talk and Book Wish Lists with AI-Driven Technology** *Chih-En KUO and Hong-Min TU*
W06-005 F	**AVERY: A GenAI-based Approach to Enhancing Learner Engagement in English Writing** *Ka-Lai WONG, Patrick OCHEJA, Brendan FLANAGAN, and Hiroaki OGATA*
10:50–12:20	WS06-2
	Panel Discussion
13:20–14:50	WS06-3
W06-007 F	**How AI Supports Returning Adult Learners in a Developing Economy: Enhancing Academic Writing Through Self-Determination Theory** *Mary Rose MARTINEZ and Ryan EBARDO*
W06-009 F	**Developing a multimodal learning analytics approach to examine students' cognitive presence and metacognition in a metaverse environment** *Yanjie SONG, Lei TAO, Hao DENG, and Jiachen FU*
W06-010 F	**Integrating ChatGPT into Flipped Learning: Enhancing Students' Creative Writing Skills and Perception** *Worapong KHUIBUT, Sasivimol PREMTHAISONG, and Pawat CHAIPIDECH*
15:10–17:00	WS06-4
W06-011 F	**Competency-based Assessment in the Era of Generative Artificial Intelligence: Perspectives of Selected STEM Educators** *Friday Joseph AGBO, Heather Kitada SMALLEY, and Kathryn NYMAN*
W06-006 S	**A Case Study for Educators with ChatGPT and Plato's Allegory of the Cave** *Anna Y.Q. HUANG, Jain-Wei TZENG, Chi-Sheng HUANG, Zhi-Chi LIU, and Owen H.Q. LU*
W06-008 S	**Supporting Students' Post-Exam Reflection Needs in College Automation Engineering Course Using LLM** *Edward ANOLIEFO, Patrick OCHEJA, Regina OCHONU, Brendan FLANAGAN, and Hiroaki OGATA*

WS07: The 7th Workshop on Predicting Performance Based on the Analysis of Reading and Learning Behavior

Tuesday, November 26

09:00–10:30	WS07-1
W07-001 F	**Exploring Cross-Disciplinary Education: Enhancing Science Learning with Digital Picture Books** *Yan-Yu JAU and Joni Tzuchen TANG*
W07-002 F	**Methods of Balancing Model Explainability and Performance in Identifying At-Risk Students** *Tiffany T.Y. HSU, Owen LU, and Brendan FLANAGAN*
10:50–12:20	WS07-2
W07-003 F	**Effects of the Self-Regulated Learning and Motivation on Learning Achievements of the Programming Courses** *Mu-Sheng CHEN and Ting-Chia HSU*
W07-004 F	**GazeViz: A Web-Based Approach for Visualizing Learner Gaze Patterns in Online Educational Environment** *Eduardo DAVALOS, Namrata SRIVASTAVA, Yike ZHANG, Amanda GOODWIN, and Gautam BISWAS*

WS08: The 12th Workshop on Technology-Enhanced STEM Education (TeSTEM Workshop)

Monday, November 25

09:00–10:30	WS08-1
W08-001 F	**Novice Programmers' Saccadic Patterns in Error Message Comprehension and Syntax Error Identification** *Caren PACOL, Maria Mercedes RODRIGO, and Christine Lourrine TABLATIN*
W08-004 F	**Challenges and Opportunities for Designing and Implementing Ubiquitous Game-based Learning to Cultivate Digital Citizenship in Thailand** *Patcharin PANJABUREE, Gwo-Jen HWANG, Niwat SRISAWASDI, Ungsinun INTARAKAMHANG, and Sasipim POOMPIMOL*
W08-005 S	**Reducing Undergraduate Students' Information Technologies (ITs) Anxiety through Implementation of Blended Learning: A Case Study in the Basic Natural Science Course** *Anggiyani Ratnaningtyas Eka NUGRAHENI, Anggraeni Dian PERMATASARI, and Antuni WIYARSI*
10:50–12:20	WS08-2
W08-002 F	**Predicting Emotional Impact on Peer review, Peer assessment, and Self-Assessments Using Deep Learning and NLP in STEM Education** *Pascal Muam MAH*
W08-008 F	**Leveraging Generative AI for Automatic Scoring in Chemistry Education: A Web-Based Approach to Assessing Conceptual Understanding of Colligative Properties** *Sri YAMTINAH, Dimas Gilang RAMADHANI, Antuni WIYARSI, Hayuni Retno WIDARTI, and Ari Syahidul SHIDIQ*
W08-010 S	**Fostering TPACK Self-Efficacy among Pre-Service Chemistry Teachers: A Case Study from Indonesia** *Anggiyani Ratnaningtyas Eka NUGRAHENI, and Niwat SRISAWASDI*

WS08: The 12th Workshop on Technology-Enhanced STEM Education (TeSTEM Workshop)

Monday, November 25

13:20–14:50	WS08-3
W08-003 F	**Math Learning Application on Mobile Devices Following the STEAM Educational Model** *Nguyen Manh Thang and Pham-Duc THO*
W08-011 F	**Does Interactive Augmented Reality Enhance Primary Students' Geometric Understanding and Visual-Spatial Skills in Mathematics Learning?** *Atcharaporn ASSAWAPHUM, Sasivimol PREMTHAISONG, and Pawat CHAIPIDECH*
W08-007 S	**Promoting Quantitative Analysis in School Chemistry with Technology-supported Hands-on Laboratory Learning: A Case of Arduino-based Portable Spectrophotometer** *Ari Syahidul SHIDIQ, Fa'ari SALSABIILA, Murni RAMLI, Sri MULYANI, Hayuni Retno WIDARTI, and NAHADI*
15:10–17:00	WS08-4
W08-009 F	**The Urgency of Small-Scale Laboratory Learning Media with Ethno-Electrochemical Contexts Based on Content Creators** *Hayuni R. WIDARTI, Sumari, Munzil, Nahadi, Ari S. SHIDIQ, Berliyana I. PANULATSIH, Ghaitsa Z. S. P. PUTRI, Nafisah KHAIRUNNISA, and Deni A. ROKHIMa*
W08-012 F	**Exploring the Effect of Marker-Based AR Gamification on Primary Students' Science Concepts and Motivation** *Pawat CHAIPIDECH, Sasivimol PREMTHAISONG, Phattaraporn PONDEE, and Niwat SRISAWASDI*
W08-006 S	**Exploring the Impact of Digital Divide on the Academic Performance of STEM Students in Hybrid Modality** *May Marie P. TALANDRON-FELIPE and Jundy V. INTAO*

WS09: The 4th Workshop on Innovative Technologies for Enhancing Interactions and Learning Motivation

Monday, November 25

09:00–10:30	WS09-1
W09-001 S	**AR2: Augmented Reality for Enhanced Reading Comprehension** *Allan Jay ESTEBAN*
W09-002 S	**Developing the Interactive Game-based Picture Book "Food Ninja" to Enhance Creativity in Elementary School Students** *Wen Chun LAN, De Jun MO, and Joni Tzuchen TANG*
W09-003 F	**An Estimation of Student Well-being Using Experience Sampling** *Arthur NEBRAO, Jr. and Maria Mercedes RODRIGO*
W09-004 S	**Exploring the Use of Short Video Social Media for Learning ESL in Indonesia** *Riska SAPUTRA, Tsaqufal JALILY, and Intan SETIANI*
W09-005 S	**Narrative Introduction Text Generation Support System According to Reader Preferences** *Ryusei SHIMONAKA, Kota KUNORI, and Tomoko KOJIRI*
W09-007 S	**Galvanic Skin Responses and Flow: Insights from Multimodal Learning Analytics in Personal Learning Environment** *Yu-Lin HO, Yuan-Hsuan LEE, and Jiun-Yu WU*
10:50–12:20	WS09-2
W09-006 F	**Transforming Student Feedback into Institutional Action Plans: A Data-Driven Approach** *Arlene Mae CELESTIAL-VALDERAMA*
W09-008 F	**BioMol DigiGames: An App for the Mastery of Biomolecules** *Joshua TUMOLVA, John Lorence VILLAMIN, Joselito Christian Paulus VILLANUEVA, and Armando Victor GUIDOTE*
W09-009 S	**The Era of Learning Programming Through Program: Challenges and Potential of ChatGPT in Revolutionizing High School Programming Education** *Tzu-Chi YANG*
W09-010 S	**Code Visualization System for Writing Better Code through Trial and Error in Programming Learning: Classroom Implementation and Practice** *Shintaro MAEDA, Kento KOIKE, and Takahito TOMOTO*
W09-011 S	**Optimization of Non-Verbal Information for English Conversation Agents Using Interactive Evolutionary Computation** *Yuma SHIMOSAKA, Emmanuel AYEDOUN, and Masataka TOKUMARU*

WS09: The 4th Workshop on Innovative Technologies for Enhancing Interactions and Learning Motivation

Monday, November 25

13:20–14:50	WS09-3
W09-012 S	**Exploring the Benefits of Strategic Hesitations in Language Learning Robots** *Ryusei AZUMA, Emmanuel AYEDOUN, and Masataka TOKUMARU*
W09-013 S	**Zooming In on Educator Well-Being: Exploring Behavior Attributes, Zoom Fatigue, and Burnout Dynamics** *Kevynn DELGADO, Mary Rose MARTINEZ, Christine Jamela VALSADO, and Ryan EBARDO*
W09-014 S	**The Effect of Collaborative Anchoring on the Development of Digital Curation Skills Among Nursing College Students** *Chunhao CHANG*
W09-015 F	**Enhancing Health Education and Learning Motivation in Primary Students through Augmented Reality and Game-Base Learning: A Case Study** *Nattapat BUNYUEN, Pawat CHAIPIDECH, and Sasivimol PREMTHAISONG*
W09-016 S	**Improving Engagement in Museums through Virtual Reality Educational Escape Rooms (VREER): A Framework and Usability Study** *Eric Cesar E. VIDAL, Jr., Nicko CALUYA, Joan Dominique L. LEE, Kenneth King L. KO, Jed Laszlo O. JOCSON, and Gerick Jeremiah Niño N. GO*
W09-017 S	**Exploring the Effect of Metacognitive Awareness on University Students' Learning Outcomes in the Metaverse: Evidence from Eye-tracking Data** *Tinghui WU, Yanjie SONG, and Xuesong ZHAI*

Doctoral Student Consortium (DSC)

Tuesday, November 26

09:00–10:30	DSC-1
244	**Real-time Adaptive Learning Environments Using Gaze and Emotion Recognition Engagement and Learning Outcomes** *Aboul Hassane CISSE*
254	**Developing a multimodal learning analytics approach for collaborative learning and metacognitive strategies in virtual learning environments for primary science education** *Lei TAO and Yanjie SONG*
223	**Competition and Collaboration: A Multi-Modal Analysis of Cognitive Load and Behavior in Game-based Learning** *Lishan ZHENG and Wenli CHEN*
10:50–12:20	**DSC-2**
253	**A Proposal for a Quantitative Evaluation Model for Error Image Generation in L2 Vocabulary Learning** *Kazuki SUGITA, Wen GU, Koichi OTA, Prarinya SIRITANAWAN, and Shinobu HASEGAWA*
212	**Development and Validation of a Problem-Solving Instrument (Multiple-Choice Questions) for Computational Thinking Among Trainee Teachers in the Klang Valley, Malaysia** *Ahmad Sarji Abdul HAMED, Su Luan WONG, and Mohd Zariat Abd RANI*
217	**OKLM: Open Knowledge and Learner Model Using Educational Big Data** *Kensuke TAKII, Changhao LIANG, and Hiroaki OGATA*
13:20–14:50	**DSC-3**
248	**Exploring the Young Learners' Interactions with AI-generated Multimodal Feedback in Collaborative Writing** *Xinyu GUO*
241	**The Bane of AI in Teaching: Innovation Resistance in Higher Education Instructional Design & Delivery** *Estefanie BERTUMEN and Ethel ONG*
	Discussion

Student Wing (SW)

Tuesday, November 26

14:30–16:30	**Student Wing Workshop**
	Chair: *Prof. Yanjie SONG*, The Education University of Hong Kong
	Introduction
	Topic: **Get Your Research Published: Essential Tools and Strategies** *Yin YANG, The Education University of Hong Kong*
	Q&A Session
	Topic: **Unlock Your Early Career Success: Tips and Opportunities for Securing Grants** *Shurui BAI, The Education University of Hong Kong*
	Q&A Session
	Interactive Session
	Closing