

## Table of contents

### Full Length Articles

Middle School Students' Mathematics Knowledge Retention: Online or Face-to-Face Environments <i>Clayton M. Edwards, Audrey C. Rule and Robert M. Boody</i>	1–10
Recommending Learning Activities in Social Network Using Data Mining Algorithms <i>Lamia Mahnane</i>	11–23
Analyzing Pauses in Computer-Assisted EFL Writing—A Computer-Keystroke-Log Perspective <i>Cuiqin Xu and Yan Qi</i>	24–34
The Effect of Socially Shared Regulation Approach on Learning Performance in Computer-Supported Collaborative Learning <i>Lanqin Zheng, Xin Li and Ronghuai Huang</i>	35–46
Do Focused Self-Explanation Prompts Overcome Seductive Details? A Multimedia Study <i>Zhe Wang and Olusola Adesope</i>	47–57
Enhancing Students' Computer Programming Performances, Critical Thinking Awareness and Attitudes towards Programming: An Online Peer-Assessment Attempt <i>Xiao-Ming Wang, Gwo-Jen Hwang, Zi-Yun Liang and Hsiu-Ying Wang</i>	58–68
Students' Reactions to Different Levels of Game Scenarios: A Cognitive Style Approach <i>Zhi-Hong Chen, Sherry Y. Chen and Chih-Hao Chien</i>	69–77
Flow Experience and Educational Effectiveness of Teaching Informatics using AR <i>Stefanos Giasiranis and Loizos Sofos</i>	78–88
Let's Draw: Utilizing Interactive White Board to Support Kindergarten Children's Visual Art Learning Practice <i>Pao-Nan Chou, Chi-Cheng Chang and Mei-Yin Chen</i>	89–101
Heuristics and Web Skills Acquisition in Open Learning Environments <i>Daniel Dominguez Figaredo</i>	102–111
Effects of Attention Cueing on Learning Speech Organ Operation through Mobile Phones <i>Hui-Yu Yang</i>	112–125
Effects of Self-explanation and Game-reward on Sixth Graders' Algebra Variable Learning <i>Hong-Zheng Sun Lin and Guey-Fa Chiou</i>	126–137
The Influence of a Pedagogical Agent on Learners' Cognitive Load <i>Noah L. Schroeder</i>	138–147
Development and Usability Test of an e-Learning Tool for Engineering Graduates to Develop Academic Writing in English: A Case Study <i>Chih-Chung Lin, Gi-Zen Liu and Tzong-I Wang</i>	148–161

### Guest Editorial

Fostering Deep Learning in Problem-Solving Contexts with the Support of Technology <i>Minhong Wang, Sharon Derry and Xun Ge</i>	162–165
--	---------

### Special Issue Articles

EcoXPT: Designing for Deeper Learning through Experimentation in an Immersive Virtual Ecosystem <i>Chris Dede, Tina A. Grotzer, Amy Kamarainen and Shari Metcalf</i>	166–178
Comparing Design Constraints to Support Learning in Technology-guided Inquiry Projects <i>Lauren R. Applebaum, Jonathan M. Vitale, Elizabeth Gerard and Marcia C. Linn</i>	179–190
Design of a Three-Dimensional Cognitive Mapping Approach to Support Inquiry Learning <i>Juanjuan Chen, Minhong Wang, Chris Dede and Tina A. Grotzer</i>	191–204
Leveraging Students' Knowledge to Adapt Science Curricula to Local Context <i>Lana M. Minshew, Kelly J. Barber-Lester, Sharon J. Derry and Janice L. Anderson</i>	205–218

Moving Apart and Coming Together: Discourse, Engagement, and Deep Learning <i>Andrea S. Gomoll, Cindy E. Hmelo-Silver, Erin Tolar, Selma Šabanović and Matthew Francisco</i>	219–232
Deep Learning towards Expertise Development in a Visualization-based Learning Environment <i>Bei Yuan, Minhong Wang, Andre W. Kushniruk and Jun Peng</i>	233–246
Deep and Surface Processing of Instructor’s Feedback in an Online Course <i>Kun Huang, Xun Ge and Victor Law</i>	247–260
Investigating the Effects of Authentic Activities on Foreign Language Learning: A Design-based Research Approach <i>Ildeniz Ozverir, Ulker Vanci Osam and Jan Herrington</i>	261–274
Visualizing the Complex Process for Deep Learning with an Authentic Programming Project <i>Jun Peng, Minhong Wang and Demetrios Sampson</i>	275–287
Can Students Identify the Relevant Information to Solve a Problem? <i>Lishan Zhang, Shengquan Yu, Baoping Li and Jing Wang</i>	288–299
An Eye Tracking Study of High- and Low-Performing Students in Solving Interactive and Analytical Problems <i>Yiling Hu, Bian Wu and Xiaoqing Gu</i>	300–311
Formative Assessment in Complex Problem-Solving Domains: The Emerging Role of Assessment Technologies <i>Kaushal Kumar Bhagat and J. Michael Spector</i>	312–317