# Contents

A Blended Learning Environment for Enhancing Meaningful Learning Using Twenty-First Century Skills ........................................ 1
Gustavo Zurita, Beatriz Hasbun, Nelson Baloian and Oscar Jerez

A Correlative Research on the Relationship Between Awareness in Collaborative Learning and Its Impact on Academic Performance ........................................ 9
Zhong Keding and Li Nan

A Framework to Automatically Analyze Regulation ........................................ 23
Lanqin Zheng, Moushir M. El-Bishouty, Colin Pinnell, Jason Bell, Vive Kumar and Kinshuk

A Method for Evaluating Technology-Rich Classroom Environment ........................................ 31
Junfeng Yang

A New Physical-Digital Environment for Discussion and Presentation Skills Training ........................................ 41
Katashi Nagao, Mehrdad Panahpour Tehrani and Jovilyn Therese B. Fajardo

A Study on the Development of the Smart Classroom Scale ........................................ 45
Bao Ping Li, Siu Cheung Kong and Guang Chen

Accelerate Location-Based Context Learning for Second Language Learning Using Ubiquitous Learning Log ........................................ 53
Songran Liu, Hiroaki Ogata and Kousuke Mouri
Adapted E-Assessment System: Based on Workflow Refinement
Fahima Hajjej, Yousra Bendaly Hlaoui and Leila Jemni Ben Ayed

An Initial Development and Validation of Tablet Computer Familiarity Questionnaire
Xiaoxia Zheng, Wei Cheng, Bing Xu, Guang Chen and Ronghuai Huang

Analysis of Elementary Teachers’ Readiness for Smart Learning in Korea
Soo-Young Lee and Youngmin Lee

Analysis of Problem-Posing Process of Arithmetical Word Problem as Sentence Integration: Viewpoint of First Selected Sentence
Nur Hasanah, Yusuke Hayashi and Tsukasa Hirashima

Are Serious Games Working as Expected?
Borja Manero, Javier Torrente, Ángel Serrano and Baltasar Fernández-Manjón

Automatic Generation of Valid and Equivalent Assessment Instruments
Shilpi Banerjee and Chandrashekar Ramanathan

College Students’ Attitudes and Preferences of Mobile Newspaper Reading: A Comparison Between Printed and Web Page Layout
Lin-Chao Fu, Ming-Hsin Lu, Hsin-Ying Wu, Weijane Lin and Hsiu-Ping Yueh

Competing in Cultural Arena: New Design of Career Guiding Application
Hang Guo

Design Tutoring Feedback to Increase Online Learners’ Satisfaction
Yuhui Ma, Ronghuai Huang, Xiaoying Zhang and Jiong Guo

Developing the PETAL e-Learning Platform for Personalized Teaching and Learning
Kelly Liu, Victoria Tam, Phoebe Tse, Edmund Y. Lam and Vincent Tam
<table>
<thead>
<tr>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Development of Weather Monitoring System Based on Raspberry Pi for Technology Rich Classroom</td>
<td>123</td>
</tr>
<tr>
<td>Yongbin Hu and Ronghuai Huang</td>
<td></td>
</tr>
<tr>
<td>Digital Signage System for Learning Material Presentation Based on Learning Continuum</td>
<td>131</td>
</tr>
<tr>
<td>Hiroyuki Mitsuhara and Masami Shishibori</td>
<td></td>
</tr>
<tr>
<td>Dividing Learning Process in Classroom with One-to-One Technology into Small Segments: Accurately Locating Students’ Learning Status</td>
<td>139</td>
</tr>
<tr>
<td>Guangde Xiao and Ronghuai Huang</td>
<td></td>
</tr>
<tr>
<td>Educational Dashboards for Smart Learning: Review of Case Studies</td>
<td>145</td>
</tr>
<tr>
<td>Yesom Yoo, Hyeyun Lee, Il-Hyun Jo and Yeonjeong Park</td>
<td></td>
</tr>
<tr>
<td>Effects of Social Network-Based Visual Feedback on Interaction in Online Discussion</td>
<td>157</td>
</tr>
<tr>
<td>Hana Park, Hee Joon Kim, Hyo Sun Park and Kyu Yon Lim</td>
<td></td>
</tr>
<tr>
<td>Enhanced Federation and Reuse of e-Learning Components Using Cloud Computing</td>
<td>159</td>
</tr>
<tr>
<td>Sameh Ghallabi, Fathi Essalmi, Mohamed Jemni and Kinshuk</td>
<td></td>
</tr>
<tr>
<td>Enquiry into a Self-regulated Teaching Assistant Development Program in China: The Yin and Yang of Success</td>
<td>167</td>
</tr>
<tr>
<td>Carlos Vasconcelos-Lopes</td>
<td></td>
</tr>
<tr>
<td>Exploring Pre-service Teachers’ Acceptance of Smart Learning</td>
<td>175</td>
</tr>
<tr>
<td>Jeongmin Lee, Hyunmin Chung, Jiyooin Moon and Young Ran Yoo</td>
<td></td>
</tr>
<tr>
<td>Exploring Students’ Discussion in Face to Face and Online Synchronous Learning</td>
<td>183</td>
</tr>
<tr>
<td>Peng Chen, Jing Xiang, Yuting Sun, Yi Ban, Guang Chen and Ronghuai Huang</td>
<td></td>
</tr>
<tr>
<td>Facilitating Listening and Speaking with Game-Based Learning Activities in Situational Context</td>
<td>193</td>
</tr>
<tr>
<td>Wu-Yuin Hwang, Zhao-Heng Ma, Rustam Shadiev, Timothy K. Shih and Shu-Yu Chen</td>
<td></td>
</tr>
</tbody>
</table>
Increasing the Sensitivity of a Personalized Educational Data Mining Method for Curriculum Composition ........................................ 201
Yukiko Yamamoto, Rainer Knauf, Yuta Miyazawa and Setsuo Tsuruta

Investigating the Determinants of Mobile Learning Acceptance in Korea Using UTAUT2 ............................................. 209
Myunghee Kang, Bao Yng Teresa Liew, Hyunjin Lim, Jeeun Jang and Sooyoung Lee

Learning Analysis on Learners’ Wiki-Based Collaborative Knowledge Building Behaviors .............................................. 217
Shuang Li, Qi Tang and Pengfeng Shi

Learning Through Instant-Messaging Chat Logs: A Tool for Adults to Address the Communication Norms in the New Workplace ............................................. 225
Bernie Chun Nam Mak and Mike Hin Leung Chui

Measuring Learners’ Working Memory Capacity from Their Interactions Within Educational Game .............................. 233
Mohamed Ali Khenissi, Fathi Essalmi, Mohamed Jemni, Kinshuk and Ting-Wen Chang

Mobile Devices and a Modelling Tool for Physics Experiments in High School ......................................................... 239
Wing-Kwong Wong, Tsung-Kai Chao, Pin-Ren Chen, Yunn-Wen Lien and Chao-Jung Wu

Ontology Based Semantic Metadata Extraction System for Learning Objects ................................................................. 247
Ramzi Farhat, Baraâ Jebali and Mohamed Jemni

Ontology-Based Smart Learning Environment for Teaching Word Problems in Mathematics ............................................. 251
Aparna Lalingkar, Chandrashekar Ramnathan and Srinivasan Ramani

Paradoxical Tensions of Online Peer Assessment: A Case Study of a Secondary School in Singapore .............................. 259
Wan Ying Tay and Zhi Ying Ng

Redesigning the Classroom Environment to Enhance Students’ Collaborative Learning Activities .................................. 267
Fui-Theng Leow and Mai Neo
Relations Between Student Online Learning Behavior and Academic Achievement in Higher Education: A Learning Analytics Approach ........................................... 275
Il-Hyun Jo, Taeho Yu, Hyeyun Lee and Yeonjoo Kim

Smart Learning Analytics ................................................. 289
David Boulanger, Jeremie Seanosky, Vive Kumar, Kinshuk, Karthikeyan Panneerselvam and Thamarai Selvi Somasundaram

Smartphone Addiction in University Students and Its Implication for Learning ......................................................... 297
Jeongmin Lee, Boram Cho, Youngju Kim and Jiyea Noh

Students’ Science Process Skills Diagnosis .......................... 307
Ming-Xiang Fan, Maiga Chang, Rita Kuo and Jia-Sheng Heh

Tablet Interface Design for Elder Users’ Newspaper Reading ..... 311
Hui-Chun Lin, Yueh-Chi Luo, Weijane Lin and Hsiu-Ping Yueh

The Design and Development of Electronic Schoolbag System Based on Educational Cloud Service Platform ............. 313
Fati Wu and Zhijia Mou

The Development of the Haiku Application Corresponding to Specification Changes and Its Evaluation ..................... 321
Nobuhiko Takada, Issei Yoshida, Masami Suzuki and Ryoichi Yanagisawa

The Strategies for Designing Collaborative Scripts ................. 325
Qian Zhao, Guang Chen and Liang Yu

Thinking of Everyone: Responsive Web Design for a Math OER Project ................................................................. 329
Hongxin Yan and Lawrence Poon

Toward Recommending Learning Tasks in a Learner-Centered Approach ................................................................. 337
Hazra Imran, Mohammad Belghis-Zadeh, Ting-Wen Chang, Kinshuk and Sabine Graf

Towards an ICT Framework for Providing Inclusive Learning Objects for Indigenous Learners ................................. 345
John Loewen, David Loewen, Kinshuk and Jarkko Suhonen
Towards Flipped Learning Using Ubiquitous Learning Log System in L2 Learning Class .............................................. 353
Noriko Uosaki, Hiroaki Ogata and Kousuke Mouri

Towards Smart Asynchronous Discussion Activity: Using Social Network Analysis to Investigate Students’ Discussion Patterns ............ 361
Jeonghyun Kim, Hye-yun Lee, Yesom Yoo, Hanall Sung, Il-Hyun Jo and Yeonjeong Park

Tracking Students’ Eye-Movements on Visual Dashboard Presenting Their Online Learning Behavior Patterns ......................... 371
Kunhee Ha, Il-Hyun Jo, Sohye Lim and Yeonjeong Park

Unfolding Learning Analytics for Big Data ................................. 377
Jeremie Seanosky, David Boulanger, Vivekanandan Kumar and Kinshuk

Usefulness of Peer Comments for English Language Writing Through Web-Based Peer Assessment ..................... 385
Zhi Ying Ng, Wan Ying Tay and Young Hoan Cho

User-Centered Design of Interactive Gesture-Based Fitness Video Game for Elderly ................................................. 393
Feng-Ru Sheu, Yun-Lin Lee, Shio-Jeng Yang and Nian-Shing Chen