2016 International Conference on Educational Innovation Through Technology (EITT 2016)

Tainan, Taiwan
22-24 September 2016

IEEE Catalog Number: CFP1645Z-POD
ISBN: 978-1-5090-6139-6

****** This is a print representation of what appears in the IEEE Digital Library. Some format issues inherent in the e-media version may also appear in this print version.***

IEEE Catalog Number: CFP1645Z-POD
ISBN (Print-On-Demand): 978-1-5090-6139-6
ISBN (Online): 978-1-5090-6138-9

Additional Copies of This Publication Are Available From:

Curran Associates, Inc
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: (845) 758-0400
Fax: (845) 758-2633
E-mail: curran@proceedings.com
Web: www.proceedings.com

2016 International Conference on Educational Innovation through Technology

EITT 2016

Table of Contents

Message from the Conference Chairs x

Committees xi

External Reviewers xiv

Session I: Interactive Learning Environment

Learning Behavior Analytics and Learning Effect Evaluation for Learners Based on MOOCs 1
Xiaojing Hu, Shixi Liu, Zhihong Xu, and Gang Xiao

Design and Development of Adaptive Minority Ethnic Culture MOOCs Platform 6
Li Yanhong, Zhao Bo, and Zhou Juxiang

Comments on the Development of MOOCs and the Design of Core Supporting Policy in China 10
Qinhua Zheng, Xuan Zhang, and Li Chen

Emotion and Associated Topic Detection for Course Comments in a MOOC Platform 15
Zhi Liu, Wenjing Zhang, Jianwen Sun, Hercy N.H. Cheng, Xian Peng, and Sanya Liu

The Design and Implementation of Task-Based Learning Activities in 3D Virtual Environment 20
Jianlei Peng, Ruobin Liu, and Geping Liu

Session II: Mobile and Ubiquitous Learning

App-Based Long-Term Care E-Learning Platform 26
Anthony Y.H. Liao and Shun-Pin Huang

Facilitating High Level Cognitive Processes with a Mobile Authentic Support 32
Shadiev Rustam, Wu-Yuin Hwang, Yueh-Min Huang, and Narzikul Shadiev

Design of Multi-terminal Mobile Learning Platform 37
Yushuang Dong, Yingqun Liu, Xibin Han, and Juan Yang

A Peer Assessment-Based Mobile Learning Approach of Science Course: A Case Study 42
Bai Qingyu, Zhang Yi, Chen Beilei, Fan Fulan, Zhou Pinghong, and Lin Li

An Annotation Tool to Support Procedural Knowledge Learning 48
Wu-Yuin Hwang, Chin-Yu Wang, Su-Ching Pan, and Jian-Jie Dong

Session III: Joyful Learning and Society

The Research on Learning Satisfaction Factors in 3D Virtual Learning Environment 53
Honglei Huang and Geping Liu

Applying the Flipped Classroom with Game-Based Learning in Elementary School Students' English Learning 59
Shu-Yuan Tao, Yun-Hsuan Huang, and Mei-Jia Tsai

Impact of Applying WebGL Technology to Develop a Web Digital Game-Based Learning System for Computer Programming Course in Flipped Classroom 64
Wen-Chun Hsu and Hao-Chiang Koong Lin

Effect of an Equivalent Fractions Digital Game on the Learning Outcome, Motivation, and Flow Types among Elementary School Students 70
Chih-Hsiao Tsai and Jung-Chuan Yen

Understanding the Educational Values of Video Games from the Perspective of Situated Learning Theory and Game Theory 76
Lu Zhang and Junjie Shang

Session IV: Computer Supported Collaborative Learning

An Online Peer Assessment-Based Programming Approach to Improving Students' Programming Knowledge and Skills 81
Gwo-Jen Hwang, Zi-Yun Liang, and Hsiu-Ying Wang

Construction of Reusable Integrable Multi-layer and Multi-granularity Educational Resource Library 86
Zhenhua Li, Zhaoli Zhang, Tingting Liu, Jiangbo Shu, and Taihe Cao

A Computer-Assisted Learning System in the Teaching of Infrared Spectroscopy Course 91
Zhaoli Zhang, Taihe Cao, Hai Liu, Jiangbo Shu, and Zhenhua Li

Design and Implementation of Software Case Library Supporting Software Capability Training 96
C.Y. Yu, J. Ma, Q. Ren, and Y.Y. Zhao

Theoretical Model and Effects Analysis of Collective Synergistic Learning 102
Yu Liu, Ling Chen, and Maodi Hu

Early-Stage Engagement: Applying Big Data Analytics on Collaborative Learning Environment for Measuring Learners' Engagement Rate 106
Owen H.T. Lu, Anna Y.Q. Huang, Jeff C.H. Huang, Chester S.J. Huang, and Stephen J.H. Yang

Session V: Flipped Classrooms

Exploring Elementary Learning Paradigm Supported by Cyber Learning Space in Central China 111
Peng Zhou, Jin Zhang, Yonghui Wang, and Jian Xu

Effects of the Flipped Classroom Model on Student Performance for Vocational College Students 117
Yuh-Tyng Chen and Lin-Fan Chen

Student Engagement: One of the Necessary Conditions for Online Learning 122
Min Hu, Hao Li, Wenping Deng, and Hua Guan

The Influence of Assessment-Based Learning on Students' Knowledge Building in the Smart Classroom 127
Pinghong Zhou, Qingyu Bai, Yi Zhang, and Fulan Fan

Using the Mixed Mode of Flipped Classroom and Problem-Based Learning to Promote College Students' Learning: An Experimental Study 133
Xiaoying Feng, Pengyu Chen, Yue Liu, and Qiong Song

Session VI: Technology in Education and Performance

Life-Cycle Efficacy for Educational Technology: Best-Practices for Leading Schools 139
Jason MacLeod and Harrison Hao Yang

Brush It Up: On-Line Resources for Fostering Independent Learning 143
Susana A. Eisenchlas and Andrea C. Schalley

Exploring the Impact of Attitude and Perceived Behavioral Control on Elementary School Teachers' Use Intention of In-Service E-Teacher Development 149
Hsiu-Ju Chen

Exploring the Relationship between Teachers' ICT Competency and Usage of ICT in Elementary and Secondary Teaching Practice 153
Fulan Fan, Yi Zhang, Beilei Chen, Qingyu Bai, Pinghong Zhou, and Li Lin

Comprehensive Evaluation Based on VEDI Index Measure of Vocational Education Informatization Level 159
Lili Li and Chun Lu

Analysis of Social Network and Knowledge Construction Levels in Online Discussion 163
Chengling Zhao, Yunzhen Liang, Xiaoyuan Zhao, and Qingtang Liu

Session VII: Technology Enhanced Language Learning

An Investigation of Chinese Postgraduate Students' Experiences on a Data-Visualized English Writing Feedback Platform 168
Kun Dai

Development and Evaluation of Novel eBook Interface for Scaffolding Thinking Context in the Teaching of Writing 174
Gwo-Dong Chen, Chin-Yeh Wang, and Chih-Kai Chang

An Empirical Study of Elementary School Chinese Writing Teaching Used Automatic Evaluation Software of Chinese Characters (I): A Case Study of Primary School Grade Three Students in Nanjing City 178
Nannan Gao and Hongbin Qiu

An Empirical Study of Elementary School Chinese Writing Teaching Used Automatic Evaluation Software of Chinese Characters (II): A Case Study of Primary School Grade Three Students in Nanjing City 183
Jianqing Zong and Hongbin Qiu

Advanced Chinese EFL Learners' Experiences and Perceptions of OGSW - An Online Collaborative Creative Writing Project 187
Zongping Xiang

Session VIII: Digital Technology, Innovation, and Education

Survey of Satisfaction of Small Private Online Course (SPOC): A Case of Chuzhou University Students, China 193
Guo Shouchao, Yu Chunyan, and Zhao Shenghui

Curriculum Development for Practical Training: A Design-Based Research of Network Detection Combat 198
Fugang He, Li Chen, and Qinhua Zheng

A Study of the Affective Tutoring System for Music Appreciation Curriculum at the Junior High School Level 204
Ma Yu-Chun and Lin Hao-Chiang Koong

Character-Level Convolutional Networks for Arithmetic Operator Character Recognition 208
Zhijie Liang, Qing Li, and Shengbin Liao

The Application of Information Processing Technology in Serving Chinese News Teachers 213
Shuqin Zhu, Dongdong Guo, and Jihua Song

A Web-Based Annotation System to Conducting Learning Activities for Mammography 218
Jian-Yang Shih, Iwen Huang, and Si-Wa Chan

Session IX: Science of Learning

Students' Perspective of University in the Information Age: A Case Study from Central China Normal University 222
Meiqian Wang, Jason MacLeod, Xiaohuan Sun, and Harrison Hao Yang

A Model Based on the Factor Analysis for Assessing the ICT Development in Basic Education and Regional Comparison 227
Xinyan Zhang, Chun Lu, and Di Wu

Personality and Vocational Interests: What We Have Learned about Students in Educational Technology Major 232
Sha Zhu, Harrison Hao Yang, and Jin Cai

An Educational Platform for Promoting Awareness of Lake Environmental Protection with Live Monitoring Technology 238
Weihu Wang, Yangshen Liu, Yahui Guo, and Pengpeng Jian

Extraction of Implicit Quantity Relations for Arithmetic Word Problems in Chinese 242
Xinguo Yu, Pengpeng Jian, Mingshu Wang, and Shuang Wu

Exploring the Effect of Behavioral Engagement on Learning Achievement in Online Learning Environment: Learning Analytics of Non-degree Online Learning Data 246
Shuang Li, Chen Yu, Jingjing Hu, and Yao Zhong

Author Index 251