2017 International Conference of Educational Innovation through Technology (EITT 2017)

Osaka, Japan 7 – 9 December 217



IEEE Catalog Number: ISBN:

CFP1745Z-POD 978-1-5386-0630-8

Copyright © 2017 by the Institute of Electrical and Electronics Engineers, Inc. All Rights Reserved

Copyright and Reprint Permissions: Abstracting is permitted with credit to the source. Libraries are permitted to photocopy beyond the limit of U.S. copyright law for private use of patrons those articles in this volume that carry a code at the bottom of the first page, provided the per-copy fee indicated in the code is paid through Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923.

For other copying, reprint or republication permission, write to IEEE Copyrights Manager, IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854. All rights reserved.

*** 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:
 CFP1745Z-POD

 ISBN (Print-On-Demand):
 978-1-5386-0630-8

 ISBN (Online):
 978-1-5386-0629-2

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



The Sixth International Conference of Educational Innovation through Technology

EITT 2017

Table of Contents

| About EITT 2017 | xi | |
|---|-----|--|
| Preface | xii | |
| Foreword | | |
| Conference Organizers. | | |
| | | |
| Teacher Professional Development | | |
| Learning to Learn from MOOCs from Teachers' Perspective: Data Analysis Based on the Course "Micro-Class Design and Production" | 1 | |
| A Study on Characteristics of TPACK Structure for MOOC Teachers | 5 | |
| A Study on Factors Affecting Satisfaction of Junior Middle School Teachers Participating in Online Training Cuixian Niu, Hai Zhang, Yining Wang, and Xu Yang | 10 | |
| Study of Relationship between Classroom Teaching Structure and TRACK Structure of Science Teachers in Middle Schools Dongping Liu, Hai Zhang, Yining Wang, and Baoshan Yan | 14 | |
| A Case Study of Analysis on TPACK Structure of Teachers in Primary School in China | 18 | |
| Research on Status, Problems, and Countermeasures of Instructional Technology Application in Chinese College Teachers | 22 | |
| Investigating the Factors Influencing the Use of ICT in Education: A Content Analysis Fei Wang, Rifa Guo, Menghua Hu, and Xiaoging Gu | 27 | |

| Relationships of TPACK and Beliefs of Primary and Secondary Teachers | |
|---|----|
| in China | 32 |
| Zi Liang, Yining Wang, Hai Zhang, and Liu He | 00 |
| Study on TPK Structure of Pre-Service Teachers by Micro-Courses Analyzing | 36 |
| Learning "B-Learning" through "B-Learning": A Practice Model for Teachers' | |
| Professional Development | 41 |
| Yue Huang, Xibin Han, and Yuping Wang | |
| Study of Relationship between Pre-Service Information Technology Teacher and TPACK | 47 |
| Dongxue Li, Xu Yang, Hai Zhang, and Yining Wang | |
| Student Engagement | |
| Evaluation of a Reflection Support Method for Students in PBL | 51 |
| Learners' Self-Regulation in an Interactive Response System-Aided Flipped | |
| Classroom | 55 |
| Pei-Ying Chen and Gwo-Jen Hwang | |
| Research on Intellectual Property Risk and Precautionary Education in the Process of Undergraduate Innovative Undertaking | 57 |
| Hu Shensong | |
| A Research on Factors Affecting College Students' Digital Citizenship Dan Ke and Shun Xu | 61 |
| The Relationship between Computer Experience and College Students' Digital | |
| Citizenship | 65 |
| Shun Xu, Harrison Hao Yang, Sha Zhu, and Jason MacLeod | |
| Learners' Critical Thinking Characteristics in Asynchronous Online Discussion | 70 |
| A Model of Cultivating Computational Thinking Based on Visual Programming | 75 |
| A PBL Teaching Model Based on Mobile Devices to Improve Primary School | |
| Students' Meta-Cognitive Awareness and Learning Achievement | 81 |
| Zhen Chen, Yi Zhang, Qingyu Bai, Beilei Chen, Yinghui Zhu, and Ye Xiong | |
| Attitudes about Academic Help-Seeking Mediate the Relation | |
| between Personal Achievement Goal and Academic Help-Seeking Behavior in MOOC Learners | Ω7 |
| Xiaojuan Yang and Hualin Bi | |

| Joint Exploration of Negative Academic Emotion and Topics in Student-Generated Online Course Comments | .89 |
|---|-----|
| A Case Study of American STEM Program Based on Canada/USA Mathcamp | .94 |
| Assessment & Evaluation | |
| A Survey of the Effective Utilization of Services Provided at Learning Commons in Japan | .99 |
| The Research on the Development Trend of "Internet +" Continuing Education | 104 |
| Assessment of Children with Autism Based on Computer Games Compared with PEP Scale | 106 |
| Kun Zhang, Xiaodi Liu, Jingying Chen, Leyuan Liu, Ruyi Xu, and Dan Li | |
| A Rubric-Based Technology-Enhanced Assessment Approach to Improve Students' Meta-Cognitive Awareness and Learning Achievement | 111 |
| Fostering Elementary Students' Collaborative Knowledge Building in Smart Classroom with Formative Evaluation | 116 |
| A Study on the Development Trend of the "Internet + K12 Education" | 118 |
| Does Learning Stickiness of Students on Network Educational Platform Affect Students' Academic Performance? Feiyang Xu, Baisuo Jin, Yihua Xu, Bangqi Liu, Xin Li, and Yafei Wang | 120 |
| Predicting the Performance Fluctuation of Students Based on the Long-Term and Short-Term Data | 126 |
| A Study on the Relationship among Students' Burden, Teaching Strategies and Academic Level Based on Structural Equation Model | 128 |
| Investigating and Analyzing Teaching Effect of Blended Synchronous Classroom | 134 |
| Research on Evaluation Model for Interactive Classroom Enabled with Mobile Terminals | 136 |

| Rating MOOCs: Implications from Gamification | 142 |
|--|------|
| Horizon Content Knowledge: Is It a Part of Content Knowledge or Contextual Factor? | 1/18 |
| Yang Zhang, Hai Zhang, and Yining Wang | 140 |
| Reflections on Three Questions in Educational Technology Research Methods | 152 |
| Design & Development | |
| Design for Assisted Inquiry Mechanism in Web-Based Inquiry Science Environment | 15/ |
| Zhenyan Zhu, Chin-Yeh Wang, Wei Jiang, Zixuan Wang, and Jiazhen Xu | 104 |
| Changes in Subjective Understanding of an Accident and Risk Awareness in First-Year Nursing Students Following Medical Accident Simulation-Based | |
| Experimental Learning | 159 |
| Development and Assessment of Robot Teaching Assistant in Facilitating Learning | 165 |
| Zhi Sun, Zhe Li, and Toshihisa Nishimoril | |
| Research on the Development of Micro-Course about College Students' Maker Literacy | 170 |
| Zhang Jieqi and Lyu Xiaohong | |
| A Fast Multidimensional Analysis Scheme to Analyze Linear Learning Sequence of Learning Activities | 172 |
| Design and Development of the Platform for D&T | 176 |
| Adapting Prior Educational Practices in Materials to Current Educational Practices: Use of Digital Archives | 178 |
| Design and Implementation of the Information Literacy Evaluation System for High School Students | 182 |
| An Eye-Movement Study on Text Font Size Design Rules in the Digital Learning Resources | 187 |

| From the Driving Force to Influence: The Contest of Micro Course's Problems, Reflections and Transcendence: Based on the Analysis of the Chinese Contest of Micro Course in Recent Three Years | 192 |
|--|------|
| Zhuming Nie, Hongjin Xu, and Luxi Wang | |
| The Discussion on the Effectiveness of Reconstructing of University Teaching by the Flipped Classroom Model | 198 |
| Future Classroom Design of Teaching from the Perspective of Educational | |
| Technology | 203 |
| Anfu Zhang and Tangbo Zhou | |
| Research on Construction of Nursing Knowledge Portal Based on Big Data Ying Liu and Di Li | 207 |
| Research on the Strategy of E-Learning Resources Recommendation Based | |
| on Learning Context | 209 |
| Hao Li, Libin Wang, Xu Du, and Mingyan Zhang | |
| The Design and Implementation of a Real-Time Attention Recognition/Feedback System in Online Learning Course | 21/ |
| Pei-Yu Cheng, Yu-Cheng Chien, and Yueh-Min Huang | 212 |
| Research on Resource Aggregation Method Based on Knowledge Correlation | 218 |
| Learning Resource Correlation Mining Based on the Wisdom of Crowds | 224 |
| Creativity and Teaching | |
| Creativity and Educational Technology Brad Hokanson | 229 |
| Initial Development Process of a Student Engagement Scale in Blended Learning Environment | 23 |
| Jing Ma, Jiangang Cheng, and Xibin Han | |
| Application and Thinking of Blended Teaching Mode in Modern Chinese | 238 |
| The Study on the Support of Online Learning Resource in Blended Learning | 0.46 |
| Based on Learning Process | 242 |
| Research on Sense of Self-Efficacy about WeChat Application | |
| in Extracurricular Learning of Math | 244 |
| Xuxin Chen, Xiaoyang Huang, and Wei Wang | |
| A Study on English Reading Teaching Assisted by WeChat Public Platform | 246 |

| The Initial Development of the Factors to Influence the Maker Teachers' | |
|--|-----|
| Acceptance of Maker Education Scale | 250 |
| Hao Tian, Xinyi Li, Shanshan Ren, Lifeng Zhang, and Fati Wu | |
| Study on Teaching Methods for Developing Higher Order Thinking Skills for College Students in Flipping Classroom | 254 |
| | |
| Structure of TKPCK of Mathematics Teachers in Junior Middle Schools in China | 258 |
| Ning He, Xu Yang, Hai Zhang, Yining Wang, and Zhe Wang | |
| Language, Culture, and Teaching | |
| Exploring Deep Integration of Information Technology and China's Higher | |
| Education in the Era of Big Data | 262 |
| Construction and Application of Foreign Language Teaching Aid System | |
| Based on Knowledge Visualization | 268 |
| Zhe Li, Kai Wang, Takanori Maesako, Hai Zhang, and Juan Li | |
| Motivation and Satisfaction of International Student Studying Chinese Language with Technology of Education | 272 |
| Research and Application of Japanese Culture Teaching Assistant System Based on Japanese Eight Views Database | 278 |
| Tangbo Zhou, Zhe Li, Jinhong Cao, and Liu He | |
| Acceptance of Mobile Learning in Classroom Instruction among College English Teachers in China Using an Extended TAM | 283 |
| Lu Huang | |
| A Study on the Effect of Joyful Learning Application upon Undergraduate | |
| English Vocabulary Learning | 288 |
| | |
| Gamification in Massive Open Online Courses (MOOCs) to Support Chinese Language Learning | 293 |
| Ahmed Hosny Saleh Metwally and Wang Yining | 200 |
| A Study of TPACK Structure of Outstanding English Teacher | 299 |
| Risu Na, Hai Zhang, Yining Wang, Yaqin Wang, Terumi Yoneda, and Zhe Li | |
| Study on Key Influencing Factors of Development of TPACK of Language | |
| Teachers in Junior High Schools | 303 |
| Fangyuan Li, Hai Zhang, Yining Wang, Jingyuan Zhang, Zhe Li, and Terumi Yoneda | |

Innovative Use of Technology

| Exploring the Use of Pulse Waves as Psychological Indicators in Learning | 307 |
|--|-----|
| Yuyu Hu, Zhe Li, Mayumi Oyama-Higa, and Emako Miyoshi | |
| Utilizing Augmented Reality to Support Students' Learning in Popular Science | |
| Courses | 311 |
| Wei Guo, Yaofeng Xue, Huali Sun, Weiyun Chen, and Shengna Long | |
| Android App Development for Teaching Reduced Forms of EFL Listening | |
| Comprehension to Decrease Cognitive Load | 316 |
| Hsin-Yu Yeh, Yu-Tzu Tsai, and Chih-Kai Chang | |
| The Impact of Three Types of Virtual Reality Scene on Learning | 322 |
| Xiaozhe Yang, Pei-Yu Cheng, and Xue Yang | |
| An Experimental Study on the Digital Collection, Judgment and Improvement | |
| of Strokes' Supplement Behavior | 325 |
| Jing Wang, Jie Jing, and Yi Li | |
| The Present Situation and Development Suggestion of Educational | |
| Information Consulting Service Enterprise | 331 |
| Wang Yongling, Tong Ling, and Liu Mingzhuo | |
| Development of Support System Modeled on Robot Suit HAL for Personalized | |
| Education and Learning | 337 |
| Keiko Tsujioka | |
| The Effects of Presenting in HyperMirror | 339 |
| Taiichiro Okubayashi, Spence Zaorski, Osamu Morikawa, and Takanori Maesako | |
| Heterogeneous Learning Resources Integration and Cross-Database Retrieval | 345 |
| Jiamin Liu, Xu Du, Hao Li, and Juan Yang | |
| | |
| | |