
Editorial

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Biographical notes: Young-Ae Jung received her PhD in Computer Science from Dankook University, Korea. She worked for Mirae industrial, Inc. as a Researcher, and was an Invited Professor at Dankook University. She is currently an Associate Professor at the Division of IT Education, Sun Moon University, Korea. She is Vice President of ICT Platform Society (ICTPS), and Vice Director of Glocal IT Fusion Training (GIFT) Centre at Sun Moon University. She is serving as a Steering Member of the PlatCon conference series. Her main research interests include security, cyber physical system (CPS), smart grid system, collaborative learning, digital humanities and software engineering utilising artificial intelligence.

Woonkian Chong received his PhD and MSc in E-Business from The University of Bolton. He is the key person initiating the Research Institute of Big Data Analytics, a 10 million RMB interdisciplinary research institute, joint established together with IBM China, and Suzhou Industrial Park (SIP) government to support the strategic economic focus on business analytics. He has published more than 60 academic articles including journal articles, book chapters, conference proceedings, and teaching cases since 2007. His research interests focus on the area of B2B e-marketplace integration and interoperability, B2B marketing, e-marketing strategies for SMEs and internet technology.

1 Introduction

In recent years, many researchers in the field of education, ICT, social science and humanities came to be interested in creative research (CR), particularly the multidisciplinary approach for developing the methodology of creative research, learning and teaching. This movement is building a novel and an advanced educational paradigm for performing more effectively in language, science, and humanities education fields by enabling the convergence of education and technologies. The results of these efforts have already been used variously in education and are constantly developing and evolving.

We believe that this special issue provides a variety of creative research that was carried out in English education, humanities education, science education, and early childhood. Also, we believe that it will provide inspiration and new ideas to the research communities and researchers who have been interested in related fields. Manuscripts published in this special issue are classified as three parts; linguistic education by utilising ICT technology platform with recent technologies, science education, and education policy.

The aim of creative research (CR) is to provide fresh and innovative ideas that allow us to see our daily research work from diverse perspectives. In CR, our research work can be pleasurable and adventurous, and this change of thinking can make us more enthusiastic about and focused on our research work with greater excitement. For this special issue, we cordially invited original research papers focused on education and technology (ET) and explored a variety of emerging CR issues for the cultivation of the traditional education domain and its technological approaches.

We received a large number of manuscripts and each was double-blind reviewed by at least three or four reviewers. The reviewer groups consisted of external reviewers with proven expertise in their field. Finally, 10 manuscripts were chosen for publication in this special issue of IJKL. Section 2 of this editorial presents brief summaries of the accepted manuscripts, followed by a conclusion and some insights and future work in Section 3.

2 Related works on creative research for education and technology

The first paper entitled ‘Investigating the discourse of ICT-mediated instruction: creative research to the use and effectiveness of ICT tools in primary English’ by Park, presents ICT-mediated English teaching and learning by new differentiated aspect beyond the existing mainstream of research. In this paper, the author has verified more exactly the separation distance between student and teacher through the analysis of the practical evaluation. This study provides the methodological basis of alternative perspective for ICT-mediated linguistic classes.

The second paper entitled ‘Development of STEAM education program on climate change for science club activities’ by Yoon, proposes development a STEAM program of exploring paleotemperature using fossil leaves to cultivate the literacy of climate change and relevant systematic thinking in middle- and high-school students through club activities. This study provides the new style program through emphasising art-based creative activities of collecting, observing, and sketching fossils, and contributes to the provision of efficient and valuable opportunities to learners in the field of science education.

The next paper entitled ‘Integrating a web-based platform to promote creativity and authenticity in language classrooms’ by Jeong, investigates EFL college students’ perceptions to develop their communication competence by using TED that became a representative web-based multimedia content platform. The author proposes the creative and authentic English language course to improve students’ communication competence. Furthermore, the proposed methodology will be applied to diverse linguistic courses, and will contribute improving the efficiency of the linguistic education with ICT platform.

The forth paper entitled ‘Implications for smart learning in English education in South Korea by comparison of mobile device usage in 2008 and 2014’ by Won, provides

the evaluation results of usability and efficiency in accordance with the types of single or multiple purpose devices in an English learning field, during 2008 to 2014 and verified. Authors discovered some issues which decrease leaning efficiency, and make students uncomfortable such as problems with smart devices' mobility with battery. The authors also indicated critically that students were unsatisfied with contents to study based on their survey. It is significant that this research acted to evaluate from various perspectives not only learning efficiency but also the physical environmental factors for learners. We believe that this study could be helpful to the design of English courses with smart devices.

The purpose of the fifth paper entitled 'Effect of web-based science journal writing on the science-related affective domain of sixth grade students in Korea' by Kim, is to investigate the effect of web-based science journal writing on the science-related affective domain of sixth grade students in Korea. The findings of this research show that science journal writing influences the affective domain on the students' metacognition, their interests in science and their scientific attitudes. This paper presents the creative methodology based on scientific literacy with a 'science for all' goal with the web-based science journal writing on science-related affective domain. The proposed web-based science journal writing positively influences students' learning, problem-solving abilities, discussion skills and writing skills as components to success in their personal and professional life in science education.

The sixth paper entitled 'A study on problem-solving writing instruction model with the use of big data' by Kim, studies a creative writing teaching method for college students' self-discovery with the use of big data. This research proposes the creative writing model to create new works by mining information and strategy by using methodology based on big data technology. The proposed method provides the circumstance systematically to identify the definition of problem, solve it, and apply the solution to their writing works in convergence. This study contributes to the university writing course, including lower courses for fusion education.

The seventh paper entitled 'Integrating technology to facilitate critical reflection and creativity in pre-service teacher development' by Shin and Chang, presents correlation between the roles of technology and trainees' creative thinking in devising unconventional learning activities such as an experiential training course mixed online and offline activities. The result by the triangulated analysis of collected data, from pre- and post-session questionnaires, logs from trainees' learning journals, interviews, observation, and trainees' work, shows that the experiential learning with online interaction facilitates to enhance trainees' awareness through self-reflection critically.

The next paper entitled 'An innovative approach to official development assistance to ICT for education in Bangladesh' by Moon et al., proposed a comprehensive, innovative and creative international educational development cooperation model for customised and sustainable educational development assistance in Bangladesh. The finding of data analysis of this paper indicates that there has been an increasing emphasis on the effectiveness and quality developmental cooperation, rather than simply the quantity; implications are drawn for effectively integrating ICT into education from the analysis of the current state, visions and challenges.

The ninth paper entitled 'Critical review and creative suggestions for the native English speaking teacher policy in South Korea' by Choi et al., presents critical analytic results about NEST (Native English Speaking Teacher) teaching policy to invigorate English as a communicative language of South Korea. Authors compare the pedagogical

advantages of team teaching with NEST and only Korean English teacher teaching, and indicated problems with inequality according to a decreasing budget. Lastly, they propose the creative and innovative suggestion for NEST policy reformation based on the result of this study and trends. This paper would be helpful research to remedy the shortcomings of the present NEST policy.

The final paper entitled ‘Perspective taking encourages cleaning task performance: a child–robot interaction’ by Lee et al., presents a robot mediated learning environment for children and explores the possibility of motivating children to focus on a socially appropriate task. Authors compare the results of three different cases:

- without the robot
- with the robot programmed to take children’s perspective in a moderate way
- with the robot programmed to take children’s perspectives in a strong or repeated way.

This paper shows the interesting result that perspective-taking in two cases increases children’s familiarity with the robot, and enhances their mission. This study verifies the relationship between the level of intimacy and the strong or moderated stimuli. On the basis of this study, authors propose the various levels of perspective-taking program according to the task characteristics.

3 Conclusion

Finally, our special thanks go to Professor Ernesto Damiani, Editor in Chief of IJKL, and all editorial staff for their valuable support throughout the preparation and publication of this special issue. We would like to thank all authors for their contributions and passion to this special issue. We also extend our thanks to the external reviewers for their excellent helpful contribution in reviewing the manuscripts.