
FOREWORD

Special Section on Educational Technologies for Sustainable and Expansive Learning

With the spread of COVID-19 since 2020, the use of ICT (Information and Communication Technology) has been actively deployed to sustain our daily activities. For example, when face-to-face learning was restricted at schools and universities, online classrooms were started to avoid to stop learning. It has already been a usual classroom as a hybrid learning. On the other hand, the progress of new technologies that affect to the society, such as the IoT, robots, artificial intelligence (AI), and data sciences, is leading to social transformation using ICT, which is called DX (Digital Transformation). In the field of education, there are a lot of advanced researches and activities as educational DX.

In response to this situation, this special issue was organized by the Educational Technology Group of the IEICE to contribute to establish sustainable and expansive better learning through most advanced research results.

In this special issue, the following research fields were listed in CFP.

- Educational Technology Fundamentals: cognitive science, knowledge engineering, ergonomics, behavioral science, individual education, group/collaborative learning, learning/teaching models, etc.
- Learning(/education) support systems: e-learning, interactive learning environment, intelligent tutoring system, multimedia application, computer networks, distance learning, learning environments, learning analytics, human-computer interfaces, teleconferencing, robotics, AI, IoT, VR/AR/MR, etc.
- Instructional design and practice: learning material structure analysis, curriculum development, test systems, data analysis, engineering education, information education, teacher/researcher training, human resource development, Kansei education, university/college education, primary and secondary education, special education, nursing education, welfare education, lifelong learning, etc.

After the call for papers, six papers (including two letters) were submitted to this special section. Finally, three papers have been accepted for publication after the reviewing processes. Also, we welcomed two interesting invited papers. All these papers cover wide range of topics in the field of educational technologies. We believe that all these papers provide valuable information to readers who are interested in this field and will contribute future research activities related to educational technologies.

The editorial committee would like to express our sincerely appreciation to all the authors for their valuable contributions and to all the reviewers for their cooperation in completing the review processes under a tight schedule.

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Kenzi Watanabe (*Senior Member*) did his BSci and MSci in Physics from Saga University in 1987 and 1989, respectively. He received PhD degree in engineering from Saga University in 1998. From 1989 to 1993, he was a research associate at Saga University. From 1993 to 1999, he was a lecturer and an associate professor at Wakayama University. From 1999 to 2012, he was an associate professor and a professor at Saga University. He is presently a professor at Hiroshima University since October 2012. From 2016 to 2020, he was a principal of Hiroshima University High School Fukuyama. From 2022, he is a vice president (Information and Institutional Research) of Hiroshima University. His research interests are intelligent educational systems, advanced Internet technologies and applications.

