Editorial Preface

Special issue on Educational Innovations in Robotics, Emerging Technologies and Interdisciplinary Research

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Technology and technological solutions are becoming more and more commonplace in education, therefore 2018 will also bring changes to the journal, that are determined by the emerging situation in education and society as a whole. As of 2018 the journal will be called „International Journal of Smart Education and Urban Areas" (formerly International Journal of Knowledge Society Research) and we are glad to announce that its first issue is going to be dedicated to the ideas of Educational Robotics and Emerging Technologies that were presented at the 2017ATEE Spring Conference.

Several articles are devoted to ERASMUS + project "Robotics-based learning interventions for preventing school failure and Early School Leaving," in which authors have shared theoretical and practical lessons on how to teach programming to students, to promote interest in the learning process, to promote the development of learning motivation, positive attitude and creativity, all to lessen the risks of ESL by using LEGO Mindstorms educational robotics as agents. The articles emphasize the possibilities to improve the technological competence of teachers in order to be able to collaborate with students in a digitalized learning environment. An example of a good educational practice in a particular educational institution was analyzed, where teachers used their pedagogical work experience to introduce problem-based learning principles in the learning process. another article, the authors suggest using constructivist ideas to work with students on a particular problem of "to water or not to water" using Arduino robots, when students learn the principles of programming in a collaborative context in order to develop an irrigation system (watering system), including forecasting the effects of various adjacent factors to prevent uncontrolled water supply. Authors describe the learning process, this was organized in 5 steps using the project-based learning principles. The authors of the article have accumulated experience in developing educational materials that can be used for working with students and they emphasize that, despite the fact that educational robotics is a powerful tool, it is essential to take into account some conditions for the learning process to be effective and the conditions are as follows - the tools should be easily accessible; there should be a clear pedagogical and methodological foundation; the learning process must be inclusive. The journal also includes an article that provides practical tips on how to use Python scripting language as a tool for delivering educational material in all of the subjects listed in the Physics, Programming, and Robotics classes. The results of this paper show practical steps to use these and other integration tools and author gives some practical advices which can be used in compulsory learning process. Some authors analyze ways to develop a teacher's sense of self-efficacy through activities that can be practically tested in

hands-on principles, as recent research shows that pre-service teachers feel they are not well prepared to effectively use technology in the classroom. There is also an interesting paper which focuses on outlining the implementation of the CTwins strategy, where peer learning strategies are used in teacher learning, and the results strongly suggest that teacher confidence has increased significantly. Most articles focus on the teachers' professional competence in the context of digital learning, but one of the articles analyzes the factors that influence ICT skills of upper-secondary school students, with the aim of identifying key factors that influence how young people perceive their digital literacy and knowledge. The findings and conclusions made in this article are essential for pedagogical work as well, so that teachers can plan specific teaching strategies to enhance the development of ICT competences for students.

In general, the articles compiled in the journal clearly show that educational technologies and technological solutions have entered the educational environment to stay and can be meaningfully used to work in a transformational educational environment; however, it is necessary to develop strategies to develop teachers' digital competence so that they can realize all skills and competences stated in Bloom 's digital taxonomy, and manage the learning process by providing scaffolding for their students. This is necessary to create a learning environment in which students themselves are active agents in their learning process, who will be able to create innovative solutions in the future.

All the while, it is necessary to continue the discussion on the impact of educational technologies on the cognitive processes of individuals, on socio-emotional development, sensory development, development of social skills, as well as on the development trends of pedagogical sciences, the competence of the pedagogue in organizing and managing students' learning in a digital environment. It is relevant to discuss the research methodology in a transformed educational environment, on ways to assess student growth. The journal will continue to publish topical research articles in order to build a knowledge base for synergies between different fields of science.

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