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Editorial

The theme and the priorities of the *International Journal of Research in E-learning* (IJREL) reflect the conceptual principles underlying the modernization of education and the reform of the educational systems in European countries, as well as national development strategies for the 21st century. One of the European Union's key educational objectives is the provision of equal opportunities for all with regard to access to learning and knowledge, regardless of gender, financial and physical ability, and place of residence. That is why distance learning has now been granted a status of high priority. If introduced on a wide scale, distance learning and teaching may make significant contribution toward the achievement of educational goals in the member states.

IJREL was founded in 2015 at the Faculty of Ethnology (now Arts) and Sciences of Education (University of Silesia in Katowice), which has a longtime experience of comprehensive introduction of e-learning and contemporary ICT technologies and strengthening and widening international cooperation. This resulted in another international scientific project IRNet, that is, *International Research Network for study and development of new tools and methods for advanced pedagogical science in the field of ICT instruments, e-learning, and intercultural competences* (www.irnet.us.edu.pl). The journal focuses on the research devoted to e-learning in the digital world.

The present volume includes nine articles gathered in four chapters. Chapter I, entitled "Theoretical and Methodological Aspects of E-learning," includes three articles. The first article, prepared by Jolanta Szulc from the University of Silesia in Katowice, is devoted to distance learning, its current status, and research directions. The text aims to discuss current trends in research in distance learning (DL), such as definitions and characteristics of DL, current directions for research in DL. Among those we may find measuring transactional distance in web-based learning environments, problem-based learning (PBL) in DL, development of learning content and tasks for massive open online courses (MOOCs), effects of online course efficiency perceptions on student evaluation of teaching (SET) measures, new technologies in DL, the use of metacognitive and affective model of

self-regulated learning (MASRL), a questionnaire (scale of constructivist learning in higher education settings [CLHES]) as a method of research of constructivist learning environment in higher education, Transactional Distance (TD) theory in DL and online community culture. The summary and conclusions focus particularly on the use of DL methods in higher education.

The article “Video Library of Mathematics Lessons as a Means of Methodical Preparation of Future Primary School Teachers” was prepared by a team of researchers from Ukraine, Svitlana Skvortsova, Maryna Haran, and Olena Sagan. The authors discuss the use of lesson video recording in the process of forming the professional competence of future mathematics teachers. A video library has been created which includes videos of real mathematics lessons conducted in primary school and videos showing solutions to certain tasks, commented by the pupils and structured according to classes and topics. The authors have developed approaches to the use of the video library by teachers of mathematics methodology in primary school and primary education teacher training programme. The effectiveness of using the video library as a means of studying the course *Methods of Teaching Mathematics in primary school* was confirmed experimentally by introducing the video library into the educational process of three universities of Ukraine.

Lucie Zormanová contributed the article entitled “Students’ Motives for Attending E-learning Master Degree Courses.” The paper presents the research results on students’ motives to participate in distance learning (master’s degree course) at the University of Humanities and Economics in Łódź. The research was carried out through the method of semi-structured interviews. The interviews were conducted among the first-year students of the follow-up master’s degree in pedagogy. The research was carried out in the years 2016–2019, and in this period three stages of the research were completed. The research group consisted of 20 students who had work and family responsibilities and were between 35 and 48 years old. In addition, the respondents already had previous experience in combined and full-time studies. The interviews were recorded on a mobile phone and lasted about 40 minutes each. Data were analysed by means of open coding procedures. The goal of open coding was to divide thematically the analysed text. The interviews were analysed and then divided into units, which sometimes meant words, and sometimes sentences or paragraphs set according to their meaning, hence the unit was a semantic one. A code was assigned to each specified unit. Once the code list was created, the authors started to categorize data.

Chapter II “Innovative Methods and Technology in Higher Education” comprises two articles. Maryna Romaniukha, Oksana Shelomovska, and Liudmyla Sorokina in their article “Travel Blog as an ESL Teaching Tool” stressed that current stage of ICT development suggests the improvement of teaching tools, skills,

and learning outcomes. The paper discusses rich educational prospects of travel blogging for students of English as a second language (ESL). The authors suggest short theoretical overview of the research into travel blogosphere's educational opportunities, discussing a classification of travel blogs according to the type of sender vs. receiver communication. On an extensive and contemporary textual material, the paper considers such prominent features of travel storytelling as vocabulary of broadly understood semantics, compact meaning representation, strategies of presenting cultural information and verbal creativity which can be of true interest for students at B2 level and above. The reader can also learn about a few forms of activity with travel stories which are: individual special sampling with some specific focus (word play, irony, creative instances of word building), presentation of other culture by means of English, project work for a small group of enthusiasts, sampling stories by country, by area or by activity and presenting one concise story to the classroom as their own poster or a paper brochure.

The second article "Flipped Learning for Teaching Ukrainian IT Students" prepared by Kateryna Yalova, Ksenia Yashyna, and Liudmyla Sorokina is devoted to implementation of flipped learning as a way of improving educational quality for IT students. The paper presents the advantages and disadvantages of flipped learning as well as the obstacles for its adoption. Moreover, it shows modifications of educational functions, roles, actions, and interconnections of the participants during implementation of flipped learning. Flipped learning implementation algorithm has been proposed for a university discipline at Dniprovska State Technical University, Ukraine. Uniform architecture for flipped course which consists of face-to-face and on-line parts is given and forms and requirements for e-content are described. Approaches and technologies for implementing the on-line part of flipped learning are also discussed with proposed innovative educational technologies which may be useful at the phases of meaning realization and knowledge reflection as well as for creating students' professional skills. The proposed solutions are uniform and formed by generalization of the knowledge about the data domain, they can be utilized in Ukrainian universities.

Chapter III "Virtual Educational Space, Robotics and Hybrid Reality in Business and Education" includes four articles. Mihail Petrov, Vladimir Valkanov, and Asya Stoyanova-Doycheva contributed the article "Behaviour Analysis of Agents in Virtual Educational Space" and stressed that modern teaching methods include both traditionally established approaches to the classroom and an entirely virtual approach aimed at learning from anywhere in the world at any time. The authors state that society constantly encounters increasingly popular platforms such as Coursera, Udacity, Udemy, and even YouTube, which can serve as a kind of aggregator of new knowledge. The problem which is not addressed, however, is to what extent learning is effective in the process not only of the particular course

but also within several interrelated courses of study. The text presents conceptual model for analysing behaviour of intelligent agents who acquire knowledge by use of virtual tools to support the educational process, as well as ways to analyse the behaviour of the agents in question. The article describes a conceptual architecture for an environment to analyse the behaviour of UniPlayground agents as well as different spheres of knowledge that use this environment.

Eugenia Smyrnova-Trybulska, Dawid Staniek, and Dominika Zegzuła in their article “Robotics in Education. A Survey Report: A Case Study,” analyse various aspects of applying robotics. The article discusses and examines the level of preparation and motivation of children and pupils to attend robotics classes. The authors carry out a comprehensive review of research and scientific publications regarding technological, didactic, methodological, and human aspects of using robotics in education. The article presents a report on a survey of pupils’ opinion on robotics in education which was conducted during the third Silesian Science Festival, and discusses the exhibition stand presenting innovative digital technologies and methods in education and business and Photon robots.

Tomasz Woźniakowski and Arkadiusz Orłowski in their article “Hybrid Reality in the Internet of Things as an Environment for Transferring Knowledge” claim that due to the development of new methods of interaction with devices, it seems important to ask questions about the possibilities of using the technology in broadly understood education. The aim of this article is to present a new measure of the objects ability to accumulate knowledge in the light of the conditions which new technologies (hybrid reality and internet of things) bring, and also to evidence a case study based on the technologies mentioned in the article. The authors have discussed features of augmented reality, presenting the application of an additional visual layer to the observed reality together with the concept of the internet of things as a network of people, processes, data, and objects. Moreover, the authors have presented the concept of using artificial intelligence supporting the transfer of knowledge as well as the classification and valuation of objects in such an environment which combines the above-mentioned technologies.

The article entitled “The Use of E-learning Platform by Flipped Classroom Method in Chemistry Lessons in Poland and Ukraine – A Case Study” was written by Małgorzata Bartoszewicz, Hanna Gulińska, and Maria Gaidova from Adam Mickiewicz University in Poznań, Poland. The objective of this article is to compare chemistry teaching in Poland and Ukraine at the primary school level by discussing the possibilities of supporting education with the use of a flipped classroom method (pre-emptive teaching) and ICT including free Google platform in chemical education. The article examines some results of tests and surveys carried out among students in Polish and Ukrainian schools in the school year of 2018/2019, pointing out students’ motivation regarding ICT teaching support.

The last chapter includes two reports. The first one entitled “Innovative Digital Technologies in Education and Business at the Third Annual Silesian Science Festival 2019” was prepared by Eugenia Smyrnova-Trybulska, Dominika Zegzuła, and Dawid Staniek from the University of Silesia in Katowice, Poland. The Silesian Science Festival is an event organized by the University of Silesia in Katowice in cooperation with the Silesian University of Technology, Medical University of Silesia, the Jan Długosz University in Częstochowa, Academy of Fine Arts in Katowice, and the Jerzy Kukuczka Academy of Physical Education in Katowice. It is a regular event when specialists from almost all scientific fields meet in one place. One of the demonstration venues in the humanities and social sciences was the stand of the Silesian University’s Department of Humanistic Education and Auxiliary Sciences of Pedagogy of the Faculty of Ethnology and Educational Sciences, namely, Innovative Digital Technologies in Education and Business hosted by the authors of the report. Summing up, it can be emphasized that the third edition of the Silesian Science Festival achieved its goals related to the promotion of science, popularization of new digital technologies among young users, future students, scientists, engineers, and new generation specialists. Many young people fascinated by the scientific event discovered their new passions and were inspired by science.

The second report, “Virtual University: Model, Tools, Practice (11–12 June 2019),” prepared by Eugenia Smyrnova-Trybulska and Dominika Zegzuła, is devoted to the International Scientific Conference VU2019 and describes the topics of the conference, introduces the speakers, conference activities, and provides some conclusions.

We hope that all the texts comprising this issue will be interesting to our readers and will inspire new ideas and innovations in education.

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