



Editorial

The EU not only provides funding, but also has launched several policy initiatives and interventions on the digitalisation of education, outlined, for instance, in “Europe 2020 Strategy,” “Digital Agenda for Europe,” “Agenda for New Skills and Jobs,” “Innovation Union,” “Opening up Education: Innovative Teaching and Learning for All through New Technologies and Open Educational Resources,” “DigComp 2.0: The Digital Competence Framework for Citizens,” “A European Framework for Digitally Competent Educational Organisations,” “A Digital Single Market Strategy for Europe,” “New Skills Agenda for Europe: Working Together to strengthen Human Capital, Employability and Competitiveness,” Digital Skills and Jobs Coalition, and “Strategic Framework – Education and Training 2020.” Furthermore, contests such as European Digital Skills Awards for outstanding projects contributing to digital skills development have been launched. The authors from ten countries try to consider and analyse the contemporary topics and modern trends in the fields of internationalisation of higher education, IT competence, and intercultural competences development in conditions of the digital world.

The present volume includes seven articles gathered in three chapters.

Chapter I is entitled “Evolution of Education, and Internationalisation of Education and Competences.” The first article – “From Socratic Behaviourism to Digital Constructivism” – was prepared by researchers from Portugal, Russia, Poland, and Ukraine: António Manuel Diogo dos Reis, Olga Yakovleva, Eugenia Smyrnova-Trybulska, and Nataliia Morze. The paper presents a synopsis of the evolution of methods and techniques up to digital age, and characterises the main aspects of behaviourist and constructivist models in order to study the development of new advanced pedagogical tools and methods in education science in constructivist environment. For the purpose of the study, an analysis of the technological evolution during the last decades and its impact on education science was made, with a special focus on virtual teaching and learning. The practical outcome of the study was a series of online seminars and workshops, prepared by the international team of the IRNet project. The keynotes and workshops were held during DLCC2017 Conference (*Theoretical and Practical Aspects of Distance Learning*, subtitle: *Effective Development of Teachers' Skills in the Area of ICT and E-learning*) at the University of Silesia in Katowice, Poland. The second article,

entitled “Internationalisation of Education and Competences Approach in the Digital World – Experts’ Opinions (A Round Table Debate Hosted by IRNet Project Researchers),” focuses on the internationalisation of education and competences approach in the digital world as viewed by experts from different countries: the Netherlands, Poland, Turkey, Russia, and Ukraine. The article aims to provide opinions, views, and reflections on important topics addressed by the IRNet project and *DLCC2017* Conference participants. The final article in Chapter I, entitled “New Technologies in Polish School: Reality and Prospects for Development,” was prepared by Polish authors Barbara Grabowska and Łukasz Kwadrans from the University of Silesia in Katowice. It presents a concise overview of activities of the Polish Ministry of National Education over the last decade or so, with a focus on the results of planned or already implemented reforms in Polish school in terms of both improving its competitiveness and taking steps aimed at teaching practical skills, and not just passing the theoretical knowledge on such topics as new technologies, usage of ICT tools as didactic aids, Internet accessibility, cyber-safety, e-textbooks, or international cooperation projects (for instance eTwinning). The article can be the base for comparison with the actions of other countries’ governments from our region. The numbers given in this text are to give only the general idea of how many more challenges there are for the governing authorities, education financing system, and the Ministry of National Education. The school does not have to encourage students to use the Internet or multimedia, but it should teach how to use them in a safe and conscious way in order to develop one’s self, qualifications, and competences.

Chapter II – “Training Models, Methods, and Means of Information Literacy Development” – includes three articles. The first manuscript in the chapter, “Training for Future Primary School Teachers to Use the Learning Apps Service in Teaching Mathematics,” prepared by Ukrainian researchers Svetlana Skvortsova and Tetiana Britskan, is devoted to the issue of the training for future primary school teachers in using information technology (IT) in teaching mathematics and, in particular, in the aspect of the use of various online resources, online services for teachers, and other kinds of pedagogical software. The results of the diagnostics of conditions of the training for future teachers for the introduction of IT at the mathematics lessons in primary school are scrutinised. The peculiarities of the digital generation of children have been determined, and, based on this, the necessity of the introduction of IT in mathematics lessons has been substantiated. The approaches to training for future teachers to create interactive exercises – in particular through the Learning Apps online service – have been identified. The next paper, “E-tutor for E-learning,” is elaborated by Andrei Fedoseev from the Federal Research Centre “Computer Science and Control” of the Russian Academy of Sciences. In the manuscript, the author describes the concept of the e-tutor providing high academic achievement in electronic and blended learning. The arrangement of the e-tutor, the instructional process features, as well as the

scheme of the whole system functioning are given; also, the concepts of a task kit and a normalised lesson are introduced. Vladyslav Bilous from Ukraine, the author of the third manuscript entitled “Requirements for Creating a Game Learning System Using Mobile Applications for Primary School Students,” focuses on the study of mobile applications for primary school students. He notes that an interest in integration of mobile applications in education will continue to rise. Such methods of studies that will facilitate and accelerate the transmission of knowledge to students, activate a process of mastering knowledge, teach them to undertake independent work with the given material, and enhance the productivity of educational process and teachers’ work are needed today. Such methods can be realised in education on the basis of the use of information technologies. What is necessary is the development of methods and resources for support of the use of mobile technologies by elementary school students. Mobile technologies can make the learning process more attractive, fulfil the requirements of today’s youth, and provide necessary information at the right time. In this model, the activity approach will be employed. The cognitive activity of a child will get organised in such a form that opens him or her for knowledge, so that learning becomes the main activity, as required by the discussed programmes. In the article, the author analyses the game models necessary for the education and development of children of elementary school age. The contents of mobile platform gaming models are revealed. The article also provides the classification of the proposed products that promote the learning and development of a child, the so-called soft skills and hard skills. The suggestions for using gaming models on different devices are given. Finally, the requirements for the use of gaming models of mobile platforms in the educational process are offered.

Chapter III entitled “Reports” includes one manuscript: “Report on the Implementation of Work Package 7 ‘Dissemination of the Project Results’ in the Framework of the IRNet Project.” This article was prepared by an international team of researchers from different scientific areas connected with ICT, e-learning, pedagogy, and other related disciplines. The text focuses on the objectives and some results of the international project IRNet (www.irnet.us.edu.pl). In particular, the article describes research tools, methods, and procedures of the Work Package 7 “Dissemination of the Project Results,” that is, objectives, tasks, deliverables, publications, and implementation of research trips in the context of the next stages and Work Packages of IRNet project – International Research Network.

Eugenia Smyrnova-Trybulska