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Editorial

The content of volume 3, issue 1 of the *International Journal of Research in E-learning* proves that technology is the key to the future of (higher) education. Authors from eleven countries consider present and future trends in the development of education. The present volume includes nine papers gathered in four chapters.

Chapter I – "Global Prospects of Distance Education and High-tech Electronic Learning Environment Design" – includes two articles. In their article entitled "E-learning Specialists Training for IT Infrastructure of an Educational Institution Management," Nataliia Morze, Iryna Vorotnykova, and Rusudan Makhachashvili disclose the possibility of training e-learning specialists to manage the IT infrastructure of educational institutions. The contents and results of lifelong learning competencies formation and professional competencies, skills, and soft skills in the course of "Managing the IT infrastructure of an educational institutions" are studied. Content training for specialists in e-learning is defined by such topics as "ICT policy and IT infrastructure of educational institutions," "Program and technical solutions for building IT infrastructure of educational institutions," "Using cloud technologies for IT infrastructure of educational institutions," and presented as an e-course that includes educational materials and competence tasks that form a competence for lifelong learning (communication in mother tongue, communication in foreign languages, knowledge of mathematics and general knowledge in the field of science and technology, skills in digital media, training for gaining knowledge, social and civic skills, proactive position and practical approach, awareness and self-expression in culture) and professional competence (in educational, technical, managerial, and project activities). The feasibility of using competency tasks to prepare specialists in e-learning is confirmed by educational achievements of 94 full-time and part-time students. What is analysed are the students' acquired soft skills (flexibility, teamwork, leadership, outgoingness, social skills, creativity). Anna Ślósarz, a researcher from Poland, stresses in her article "Global Prospects of Distance Education" that distance education conferences and publications have the longest tradition in Western world countries, where they are focused on introducing professional solutions into business and administration. In Asia, the implementation of distance education is linked to social development

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and global expansion of national business within the framework of government strategies. In Latin America and in Africa, distance education provides assistance in equalising educational opportunities and in promotion of peace. In post-communist countries, academic centres poorly cooperate with administration and business sectors, which offer competitive and most attractive distance education courses. Algorithmisation of distant education courses results in insufficient development of self-reliance, creativity, and empathy of employees.

Chapter II, "Models of Distance, Blended, and E-learning," includes three papers. The first one, "Models of Distance Learning in Higher Education," is prepared by a Czech researcher Lucie Zormanová. This article is focused on distance learning in higher education. It analyses and compares the development of distance learning and conditions of distance learning in different countries. It describes significant differences in the development of distance education in higher education in individual countries. The author stresses that we meet with various forms of implementation of distance education. The divergence in approaches towards distance education in different countries is caused by different cultural aspects, the tradition of distance learning, the development of information and communication technologies, and different legislative norms in the area of education. There are many types of different organisational models for distance education. A particular model might be dominant in one country, while in another country there may exist a variety of different organisational models for distance education. The article "Blended Learning Model for Computer Techniques for Students of Architecture," elaborated by Maria Helenowska-Peschke from Poland, summarises two-year experience of implementing a hybrid formula for teaching computer techniques at the Faculty of Architecture at the Gdańsk University of Technology. Original educational e-materials, consisting of video clips, text and graphic instructions, as well as links to online resources, are embedded in the university e-learning educational platform. The author discusses technical constraints associated with the creation of e-materials and their deposition on the Moodle platform, as well as associated didactic challenges, for instance the evaluation of students' skills and real time communication. In turn, Andrii Kostiuchenko, a Ukrainian author, presents the article "Features of Implementation of a Learning Management System in the Educational Process in a Ukrainian University." The issue of regulation of a learning management system at the state level of Ukraine is being considered in the article. Types and interpretations of electronic educational resources that can be used in distance education are pointed out. The Moodle environment, as an example of one of successful learning management systems, is considered. In particular, the article contains a list of roles that can be shared by users of a learning management system. The general structure of an e-learning course, which can be used by educational institutions, is also proposed.

Chapter III – "Methodological Aspects of E-learning and ICT Literacy Development" – includes two articles. The first article, "Contemporary Teacher

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Competencies Development: A Study of ICT Tools for Professional Activities in Russia and Spain," is prepared by an international team of authors from Russia and Spain: Tatiana Noskova, Tatiana Pavlova, Olga Yakovleva, Prudencia Gutiérrez Esteban, Rafael Martín Espada, Sixto Cubo Delgado, Juan Arias Masa, Gemma Delicado Puerto, Laura Alonso Díaz, and Rocío Yuste Tosina. The paper studies the relations between teacher competencies and the specificity of the use of ICT tools in professional activities. The research was carried out within the frame of the IRNet project with the participation of two universities – the Herzen State Pedagogical University of Russia and the University of Extremadura, Spain. The results of the survey described give a general idea of various ICT tools use intensity in two countries. Overall, teachers take advantage of the electronic content capabilities for fostering students' motivation. They benefit from ICT tools' efficiency and performance, and they use cloud technologies for supporting networking and collaboration. Spanish teachers appear to be more active users of ICT tools. They apply LMS more intensively, together with own lectures recordings and foreign language e-resources. For facilitating students' communication, they apply discussion forums and online lectures intensively. For management, the most popular tools are electronic organisers, criterial rubrics, and online polls. The choice of e-resources that teachers use is largely based on their communication preferences and ways to manage teaching; these e-resources aim at facilitating learners' cognitive activities. As in the case of active use of LMS, the electronic system induces the application of available communication means (e.g., forums, online lectures, etc.) together with the appropriate management capabilities (e.g., electronic organisers, criterial rubrics, online polls, etc.). The results of the survey can help identify problem areas in teachers' ICT competencies. The article "Objectives and Content of the Mathematics E-learning Course Preparing Students for the School-leaving Exam in Mathematics" was prepared by researchers from Poland and the Czech Republic, Agnieszka Heba, Eugenia Smyrnova-Trybulska, and Jana Kapounová. The authors stress that information and communication technologies (ICT) can help solve the problems connected with forming mathematical competencies in students and are used in the process of teaching mathematics. The first part of the paper presents the theoretical background of the subject matter, including: the description of mathematical competencies and their identification at secondary school in Poland, Niemierko's taxonomy, the programmed learning theory, and the structure of the system of education/learning in the e-learning environment. It expresses the preconditions, expected results, concepts, objectives, hypotheses, and research methods. The practical part describes the structure of "Mathematics with Moodle," a system for individual learning based on the original authorial *MatLearn* module, and its graphic representation. A didactic tool is proposed – an e-learning course preparing students for the school-leaving exam in mathematics and improving students' mathematical competencies. Its aim is to increase the level of competencies, especially those which have not been mastered

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yet. In order to construct study activities in the course, the programmed learning principles and Niemierko's taxonomy were used.

In addition, in the final chapter two reports are presented. The first one is prepared by an international team of researchers from different scientific areas connected with ICT, e-learning, pedagogy, and other related disciplines: Eugenia Smyrnova-Trybulska, Nataliia Morze, Piet Kommers, Tatiana Noskova, Paulo Pinto, Sixto Cubo Delgado, Martin Drlík, Josef Malach, Tomayess Issa, and Maryna Romanyukha. This article focuses on the objectives and some results of the international project IRNet. In particular, the article describes research tools, methods, and a procedure of the Work Package 5, that is, objectives, tasks, deliverables, and implementation of research trips in the context of the next stages and Work Packages of IRNet project – International Research Network. The final article is a report from the conference Di*stance Learning, Simulation and Communication (DLSC2017)*, organised by the University of Defence in Brno and held between 31 May and 2 June 2017, prepared by its organiser, Miroslav Hrubý. The *Distance Learning, Simulation and Communication (DLSC)* conference has been a part of an official accompanying programme of the International Exhibition of Defence and Security Technologies and Special Information Systems at the BVV Trade Fairs since 2009. The event is biennial. DLSC 2009, DLSC 2011, DLSC 2013, and DLSC 2015 proceedings are accessible at the DLSC conference website (http://dlsc.unob.cz). They have been indexed at the Web of Science database (https://apps.webofknowledge.com/). The electronic versions of all DLSC conference printed proceedings can be downloaded, and their use is free of charge.

We wish you pleasure and good inspiration reading this volume. Thank you!

Eugenia Smyrnova-Trybulska

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2. *Use of e-learning in the training of professionals in the knowledge society*. Monograph. Ed. E. Smyrnova-Trybulska. Cieszyn: Wydawnictwo Uniwersytetu Śląskiego, Studio Noa, 2010, 344p. ISBN 978-83-60071-30-4.
3. *Use of e-learning in the developing of the key competences*. Monograph. Ed. E. Smyrnova-Trybulska. Katowice–Cieszyn: Wydawnictwo Uniwersytetu Śląskiego, Studio Noa, 2011, 462p. ISBN 978-83-60071-39-7.
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Coursebooks on e-learning

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2. *Zastosowanie systemów CMS w tworzeniu przestrzeni informacyjno-edukacyjnej w Internecie*. Podręcznik akademicki. Ed. E. Smyrnova-Trybulska, S. Stach. Authors: E. Smyrnova-Trybulska, S. Stach, B. Fuklin, D. Staniek. Katowice: Wydawnictwo Uniwersytetu Śląskiego, Studio Noa, 2012, 194p. ISBN 978-83-60071-55-7 (http://www.wydawnictwo.us.edu.pl/node/3731).

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