
Editorial

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Biographical notes: Eugenia Smyrnova-Trybulska is an Associate Professor at the University of Silesia (Poland) and Head of Department of Humanistic Education and Auxiliary Sciences of Pedagogy, Faculty of Ethnology and Sciences of Education in Cieszyn, University of Silesia in Katowice. She is a Coordinator of the Faculty Distance Learning Platform (<http://el2.us.edu.pl/weinoe>). She is the Chair of the Theoretical and Practical Aspects of Distance Learning Conference as well as coordinator and researcher of several scientific and educational projects. She is the author of more than 100 scientific papers and monographs in the field of e-learning methodology, ICT in education, multimedia, teacher training in ICT and others.

Piet Kommers is an Associate Professor at the University of Twente at the Department of Media, Communication and Organisation. He chairs the IADIS conferences and the e-society conference and web-based communities conference in particular. In his work for UNESCO, he brings forward the blend between the nature and the culture of learning. He distinguishes the 'new' media as catalytic to communication and awareness. In his view, learning gradually embeds in every aspect of life pertaining to the delicate question if learning can be orchestrated essentially. Similarly, we may question if communication can be 'arranged' as we ought to believe at the dawn of the social web.

Margriet Simmerling is Peer Consultant/Senior Manager for R&D projects in the area of e-society and web-based communities. She participated in the advisory board for the Dutch Ministry of Economic Affairs and is active as a

Reviewer for the European Commission. She designs and moderates e-learning modules and workshops' e-learning modules and workshops in the domain of education technology and psychology at the PhD level.

Blended learning is the traditional process of teaching supported by the use of e-learning. This model is successful and popular and is selected by academic experts as well as some secondary school teacher as a the most effective form from the above-mentioned.

This special issue targets the recent trends of developing the *competences and skills for teaching blended learning* in Middle and Eastern European countries. Over 20 authors, working in 16 different universities and other learning institutes located in four countries (Czech Republic, Poland, Slovakia and Russia) share with you their experience and future prospects into success factors in blended learning.

The global transformation from industrial to information society as well as social and economic changes taking place both in Poland and other European countries have necessitated reforms in many areas of government responsibility. In this respect, the priorities include reforming the education system involving the implementation of modern educational technologies and modes of tuition.

In the well-known document, adopted in 2006 by the European Parliament [Recommendation of the European Parliament and of the Council of 18 December 2006 on key competences for lifelong learning (2006/962/EC)]. The European Parliament and the Council of the European Union, 2006, eight key competences are defined that are needed by every person for self-realisation and personal development, for being an active citizen and for achieving full social integration and employment. Competences are defined as a combination of knowledge, skills and attitudes appropriate to the situation. Key competences are those which all individuals need for personal fulfilment and development, active citizenship, social inclusion and employment.

Distance learning, thanks to such advantages as flexibility, ease of access, modular character, quality, cost-effectiveness, state-of-the-art technology, large audiences, social balance, global reach, the new role of the teacher, positive effect on the learner, has become a leading mode of tuition and instructional technology practically at all levels of the education system.

Speaking about e-learning today is possible to select a lot of models and a lot of types of the distance courses which differ in terms of criteria suffices. Certain educational establishments or a teacher can choose that model or type of course, which serves its purposes, expectations and didactic tasks. There are plenty of models applied in distance teaching and distance courses that can be classified on the basis of different criteria. For example they can select a type of DL model, which meets their aims, expectations and didactic tasks as well as students' needs. Blended learning model, as shows numerous research, in particular described in this special issue is the most successful and popular, is selected by academic experts as well as some secondary school teacher as a the most effective form from the above-mentioned.

The contemporary education process, which is aimed at, among other things, establishing an interaction enhancing relationships between the participants and ensuring the adaptation of students to modern social and economic conditions, to personal fulfilment and development of the creative potential of a particular person, requires the development of innovative educational technologies, including extensive use of contemporary information and communication technologies for personal and professional

development. Currently, the focus of all stakeholders of the educational process is the identity of the learner. More and more emphasis is being laid on the need and necessity of development and improvement of individual creative and intellectual abilities and on, the shaping and strengthening of competences. Standard professional background, especially in the areas of advanced technology may be not sufficient anymore, which makes it necessary to use new techniques and technologies of teaching, especially in sciences directly related to IT (Smyrnova-Trybulska and Heba, 2011).

Central topic in this special issue is blended learning and developing specific competences and skills for teaching blended learning in humanistic (for example, foreign languages, pedagogy, psychology, other) as well as natural, science, technical subjects (computer science, mathematic, chemistry, etc.). The authors inform readers about new achievements and outcomes in the area of methodology as well as technology using and implementing blended learning: in order to enhance students' motivation in constructivism-based blended learning, individualisation of learning and teaching by developing author's MatLearn module, developing a visual skills and visual knowledge of students, taking into account learners' different sensory perceptions, developing critical and creative thinking and their effective using in education and others. This Special Issue includes authors from different universities that presented their best papers during the 4th Annual International Scientific Conference entitled 'Theoretical and Practical Aspects of Distance Learning', DLCC2012, which was held on 15–16 October 2012 at the Faculty of Ethnology and Sciences of Education in Cieszyn, University of Silesia in Katowice, Poland. The articles in this special issue are revised and expanded versions.

Anna Sajdak and Marek Kościelniak provide the reader with useful information about the competences an university teacher must have in order to enhance students' motivation in constructivism-based blended learning. The article 'Teacher competences and skills for enhancement of learners' motivation within constructivism-based blended learning' is based on an analysis of the key constructivist claims of cognitive motivation, a model of teacher competences has been developed, taking into account functions, roles, competences, skills and performance statements relating to the activation and facilitation of students' intrinsic motivation to learn. The model of competences presented herein is different from the comprehensive models of teacher competences known from literature, because although it takes into account almost all of the most important aspects of learning and teaching, it still focuses on the competences that are most closely related (in the constructivist sense) to learning motivation. The authors treat this study as part of conceptual preparation for their empirical research on academic teacher competences in the field of students' motivation enhancement in educational strategies grounded in different educational paradigms.

Michał Jasiński discusses and describes which features important for creative and critical thinking should be recreated in e-learning applications. Anonymity maximises chances for development of creativity and for objective and accurate assessment. His article 'Features of an e-learning environment which promote critical and creative thinking: choice, feedback, anonymity and assessment' also describe a 'quadruple anonymity' system implemented at Nowy Sacz Business School – National-Louis University in Poland, the goal of which is to improve objectivity of thesis evaluation by referees. E-learning environment is ideal for implementing functionalities which make choice, feedback, and controlled anonymity easily available to the users. To be effective, feedback should be appropriately timed, incremental, impartial, and impersonal.

Evaluation of student or employee performance, or of proposed ideas or solutions should rely on explicitly stated quantitative criteria, developed along well thought-through measurement scales and utilising proper descriptive statistics and visualisation methods. A description of the nominal group heuristic method is provided as an example of a heuristic method which relies on creativity, anonymity and unbiased evaluation.

Agnieszka Heba, Jana Kapounová and Eugenia Smyrnova-Trybulska describe in their article ‘Theoretical conception and some practical results of the development of mathematical competences with use of e-learning’ a solution to a problem related to an insufficient level of certain mathematical competences of students of secondary school. In order to solve this problem, a search to find possibilities to improve the process of teaching mathematics by means of information and communication technologies was started. A system for implementation of individual mathematics learning (*Mathematics with Moodle*) was prepared; it consists in gradual improvement of the level of mathematical competences of the students. A didactic tool was proposed – eLearning course preparing the students for the graduation exam in mathematics which includes an author’s MatLearn module, shaping mathematical competences of students. Its aim is to increase the level of competences, especially the ones which have not been mastered yet. Programmed learning principles were used to construct study activities in the course.

The authors, Miroslav Hrubý and Miroslava Huclová, of the article ‘Building required ICT profile and a connected research’ focused their attention on the upper level of Czech elementary schools. According to their opinion the age interval from 12 to 15 is a crucial period for the acquisition of basic knowledge and skills in the field of ICT. The goal of the article is to give information about a pilot study connected with teaching Informatics. Firstly, the definition of the ICT profile is stated and its description is formulated. After this theoretical chapter, the authors proceed to a specific situation in a selected elementary school. The results of a questionnaire survey are presented. This part can serve as a usable feedback to improve the teaching process in the key period in the life of the Czech youth. The text of the article can be a good indication for further research connected with teaching of Informatics at the elementary school.

In the article ‘Academic blended learning – competences and tools’, Magdalena Roszak, Barbara Kołodziejczak, Wojciech Kowalewski and Anna Ren-Kurc stress that teaching with the blended learning method has many supporters in the academic circles, as it emphasises the key role of the teacher (mentor) in the learning process, and fits well with the idea of the life long learning. The volatility of materials and the continuous evolution of tools and distance teaching and learning portals must involve a continuous improvement of ICT competences among people involved in teaching with this method. This article discusses selected aspects of preparing and teaching classes and evaluating students’ knowledge in teaching with the use of the blended learning method, with a special consideration of ICT competences necessary in this respect. Moreover, the authors present certain issues which are frequently less known to academic teachers but would significantly facilitate and streamline their work, such as: virtual seminars, leading project groups, distributing information via a portal, organisational consultation tools, etc.

The authors Dominika Goltz-Wasiucionek and Agnieszka Wierzbicka of the article ‘Reading with understanding completed in a blended learning form and learners’ sensory features’ stress that for almost 20 years Polish universities introduce more and more classes based on educational platforms. Such classes are conducted in different forms, as fully distance (e-learning), joining traditional meeting with on-line learning (blended

learning) or as supporting traditional process, by for example placing exercises on the platform, tests that allow self-evaluation. The richness of materials available within the WWW network encourages teachers to create a flow of educational process on the base of different multimedia and reaching for methods and forms of classes not previously used. Especially interesting is the use of blended learning which is considered the most effective form of distance learning mainly due to the fact that it allows: keeping direct interpersonal relationships during classes, individualisation of the learning process and due to taking into account learners' different sensory perceptions. This article presents some research results conducted among students learning English in a blended learning form.

Irena Pulak and Małgorzata Wieczorek-Tomaszewska inform the reader in 'Role of image and visual aids in the blended learning environment designed for academic learning' about importance of an image and the numerous benefits and the increasingly important role an image plays in the modern educational process. The development of information and communication technologies has made it possible to easily create, modify and publish the visual and multimedia materials. The internet is becoming a learning environment in which educational content can be presented in a different form consisting of the text, hypertext, digital images, multimedia, hypermedia, etc. In this paper the authors discuss the possibility of using an image as a media content in the educational process in the context of the design space for blended learning. They present the results of research on the level of the use of visual materials in academic practice and evaluation of their effectiveness by students. They point to the role of visual skills and visual knowledge as components of cultural capital of modern man, also pay attention to the learning potential inherent in the image as an independent unit of knowledge.

Lukáš Bomba and Jarmila Zacharová consider in 'Blended learning and lifelong learning of teachers in the post-communist society in Slovakia' social and economic changes in Slovakia after 1989 and after the Velvet Revolution. They discuss the impact on education, on redefining the functions of school, on changing the nature of education, school computerisation and total modernisation, but also on decrease of teachers' social status and on changing the school funding and long-term underfunding of the Slovak educational system. The article deals with lifelong learning of teachers in Slovakia and the use of blended learning as a means of increasing the teachers' qualification credit as employees. The main line of this article is tracking the lifelong learning of the Slovak teachers in the context of neoliberalism and its influence on education with some implications for teachers.

The article 'The application of virtualisation technologies to organisation of individualised training of students on computerised audiences' prepared by Vladimir Maximov and Alexander Karasik focused on the issues of the application of virtualisation technologies to organisation of individualised preconfigured portable educational environment of the student, providing access to the necessary tools and operating environment in accordance with the scenario of exercises and the initial data of an individual variant of the job. Offers an approach to effective management of virtual machines in terms of the computer audiences of educational institutions and describes implementing the proposed approach software, allowing to reduce labour costs for administering the computer park by technical staff of the educational institution.

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