GLOSSARY OF TERMS FOR ICT AND E-LEARNING: COMPARE THE POLISH, SPANISH AND RUSSIAN APPROACH

Eugenia Smyrnova –Trybulska, Maria Stec, **Anna Studenska**
University of Silesia in Katowice, Poland
esmyrnova@us.edu.pl, maria.stec@us.edu.pl, anna.studenska@us.edu.pl

Tatiana Noskova, **Tatiana Pavlova**, **Olga Yakovleva**
Herzen State Pedagogical University of Russia, icsto@herzen.spb.ru

Sixto Cubo Delgando
University of Extramadure, Spain, sixto@unex.es

Abstract: The development of information technology creates new opportunities for teachers and learners. An increasing number of educators and students benefit from e-learning. However, there is scarcity of publications devoted to terminology describing e-learning process. Participants of the IRNet project recognized the need to investigate terminology used in e-learning. Therefore, the purpose of the article is to select notions connected with e-learning, group them and present their definitions in the form of a glossary. Twenty-nine notions were selected. They were divided into four groups. These were concepts connected with information, competence, education and-e-learning. Definitions of ten notions regarded as basic were gathered from Russia, Poland and Spain and compared. It is hoped that the work will be useful both for e-learning courses creators and students.

Keywords: e-learning, glossary, distance learning terminology, online education

1. INTRODUCTION

Rapid technological advancement allowed for the development of e-learning. The value of e-learning market in 2015 reached the annual growth value of 9,2%. It is estimated that in 2019 as much as 50% of classes will be provided to students online (iMod Education, 2016). However, various terms and their definitions can be found in the subject literature (Szabłowski, 2011).

Use of new technologies in education is described by numerous notions with a various range of meanings, such as online education, computer-mediated communication (CMC), computer assisted learning, virtual classrooms or e-learning.

Definitions focus on different aspects, roles and functions of modern technologies in the teaching-learning process (Guri-Rosenblit, Gross 2011). For example, the notion of e-learning is understood broadly as "all activities supporting educational process which use tele-informational technologies (Hyla, 2016). Still, several definitions stress either kind of technology used, the function of e-learning in communication support or learner–centeredness (Guri-Rosenblit, Gross 2011). The notion of distance education is also used. It is defined as education which is an institutionally based process during which learners and teachers are separated to share learning experiences in the form of data, voice and video through interactive telecommunication technology (Schlosser et al. 2010). However, some authors claim that distance learning may be realized without new technologies (Guri-Rosenblit, Gross 2011).

Accessibility to definitions of the most important terms connected with e-learning may be important and beneficial both for designers of courses available online and students benefiting from this form of education. Therefore, participants of the IRNet project recognized the need of forming glossary of terms regarded as the most important for e-learning.

2.   PURPOSE, BASIC ASSUMPTIONS AND RESEARCH QUESTIONS

The main purpose of the study was to select notions connected with e-learning, group them and present their definitions in the form of a glossary.

E-learning encompasses various issues: new technologies, learning and teaching methods and self-education (Szabłowski, 2011) Therefore, it was assumed that the notions that would be selected for the glossary should refer to information technologies, student's and teacher's competences, teaching methodology and student–centeredness of learning-teacher process. A group of basic terms was established. For the basic notions, an attempt was made to collect and compare definitions from different parts of Europe. It was decided that definitions from Russia, Poland and Spain will be highlighted, reflecting eastern, central and western parts of the Continent. Three basic research questions were formulated:

- How can the terms selected be grouped?

- Are there differences in Russian, Polish and Spanish explanations of basic terms?

- How do the terms differ in Russian, Polish and Spanish explanation?

3. PROCEDURE

To select terms for the glossary various resources were used. The most important were:

- Government online resources, for example, Russian Federal Education Standards portal, Russian federal laws online versions or Spanish Education Ministry websites.

- Official e-learning handbooks like "Przewodnik po e-learningu" (E-learning guide-book) or *Teaching Materials and the Roles of EFL/ESL Teachers".*

- Glossaries and dictionaries, for example Russian Pedagogical terminology dictionary, or Polish "Glosariusz terminów i pojęć używanych w europejskich programach współpracy w dziedzinie edukacji" (Glossary of terms and notions used in European programmes of educational cooperation)

- Specialised dictionaries devoted to e-learning available online, like "Słownik e-learningu" (E-learning dictionary) or SKILLTOM e-learning dictionary.

After the initial selection of terms was completed, the terms were inserted into a table which was distributed among IRNet project Partners to complete. Definitions were then gathered and grouped. The ways in which the basic terms are understood in Russia, Poland and Spain were compared.

Results

The results concern both the glossary of terms and comparison of their definitions from Russia, Poland and Spain. The following ten terms were regarded as elementary ones: information educational environment, information resources, informatization, competence, informational competences, key competences, teacher professional adequacy, portfolio, distance learning technologies and e-learning.

3.1 Glossary of terms

Twenty-nine terms connected with e-learning were collected. They were divided into four groups. The groups concerned concepts related to information (3 terms), competence (5 terms), education (10 terms) and e-learning (11 terms).

3.1.1. Concepts related to information

Information Educational Environment (informacyjne środowisko edukacyjne)

- **Russian Definition -** software telecommunications environment, which provides technological means to conduct the educational process, its information support and documentation in the Internet to any number of educational institutions, regardless of their professional expertise and level of education (Concept of creation and development of information educational environment of open education system of Russia).

Polish Definition - software which intermediates between a teacher and a learner. It is an application which contains data base, teaching content, discussion forum, repository of tests and a system of logging in for learners. (S z a b ł o w s k i 2011: 14-15).

In Spain, the concept is not generally used.

Information resources (zasoby informacyjne)

Russian and Spanish definition - collection of data organized to obtain reliable information, documents and arrangement of documents in information systems. (G O S T 7.0-99)

Polish definition - data needed for an organization to function; A collection of valuable information generated by human activities. In a broader sense, it also includes related equipment, personnel, and capital.

Informatization (informatyzacja)

Russian definition - integrating social, economic, scientific and technical process of creating optimal conditions to meet the information needs and rights of citizens, public authorities, local governments, organizations, public associations based on the formation and use of information resources (Federal Law "On information, informatization and information protection", 25 January 1995).

Polish definition - usage of data already introduced to information systems in most effective way by other information systems https://pl.wikipedia.org/wiki/Informatyzacja; usage of new methods of information processing in economy, engineering etc. (Słownik języka polskiego PWN)

Spanish definition - applying the methods of Informatics to business, project, etc. (Spanish Language Royal Academy)

3.1.2. Concepts connected with competences

Competence (kompetencja)

Russian definition – the notion of competence is understood in two basic ways 1) Ability to use actively the resulting personal and professional knowledge and skills in a practical or scientific activity. Competencies in various fields are distinguished. The following competences are mentioned: education, common cultural, social and labour, information, communication, competence in the field of personal self-determination, etc. (Online portal "Federal Education Standards" 2) Integrative personal characteristic, reflecting the willingness and ability of the individual to carry out activities (including professional) in accordance with accepted in society the norms and standards (K o z y r e v , R a d i o n o v a 2004). 3) Set of specific knowledge

and skills, in which a person must be knowledgeable and have practical experience (Online portal "Federal Education Standards")

Polish definition - individual potential to adjust to environmental conditions, to act effectively; individual potential to introduce creative modifications (Męczkowska 2003: 693-697)

Spanish definition - combination of knowledge, capacities and attitudes adequate to a context. (Education Ministry).

Informational competences (kompetencje informacyjne)

Russian definition – a set of interrelated abilities (knowledge, skills, ways of life) which allows to use real objects and information and communication technologies in order to search for, analyse and select relevant information, organize, convert, store and transmit it. (Trishina, Khutorskoy 2004).

Polish definition – ability to use technologies of information society (TSI) skilfully and critically. Informational competences form basic skills in the framework of informational and communicational technologies (Zalecenia Parlamentu Europejskiego i Rady 2006/962/WE). Informational competencies as all other competencies consist of cognitive, motivational, normative, voluntary and social components. They should be analysed holistically in terms of skill and fluency in knowledge usage, solving problems and accept challenges (S. Juszczyk 2002)

Spanish definition - Use of computers to obtain, evaluate, store, produce, present and exchange information, and communicate and participate in Internet web networks. (Competencias clave para el aprendizaje permanente. 2007)

Key competences (kompetencje kluczowe)

Russian definition - competences necessary for any professional activity, are associated with the success of the individual in a rapidly changing world. They are manifested primarily in the ability to solve professional problems using information and communicating, including foreign language use; they also include socio-legal framework of individual behaviour in a civil society (Zimnaya, 2003)

Polish definition - the ability to read, write and count. Presently, they may also include new basic skills such as computer literacy, learning to learn skills, ability to cooperate with others and linguistic skills (Glosariusz, 2004: 32, 51)

Spanish definition - All the competences that people need for their personal development and realization, as well as for active citizenship, social inclusion, and employment (Education Ministry).

Teacher informational competence - ICT competence (kompetencje informacyjne nauczyciela)

Teachers` ability to apply relevant tools and use them effectively for learning purposes. Teachers access the available videos, documents and exercises for the courses (Obidniak, 2002:67-71). UNESCO promotes ICT-CFT (Competency Framework for Teachers). ICT– CFT involves understanding ICT in education, curriculum and assessment, pedagogy, ICT, organisation and administration, teacher professional learning with three approaches. These are technology literacy (enabling students to use ICT to learn more efficiently), knowledge deepening (enabling students to acquire in-depth knowledge of their school subjects) and knowledge creation (enabling students to create the new knowledge) (UNESCO, 2011:7-12).

Teacher's professional adequacy (kompetencje zawodowe nauczyciela)

Russian definition - 5 major groups of professional activities characterizing the experience of solving the basic pedagogical problems are allocated: 1) See the child (pupil) in the educational process; 2) build the educational process focused on achieving the goals of a concrete level of education; 3) establish interaction with other subjects of the educational process, the school partners; 4) create educational environment (school space) and use it for educational purposes; 5) design and implement professional self-education (Balakireva 2008) .

Polish definition - teacher's key competences required in curriculum statement and national education, general teaching competences, subject specific competences and didactic competences. He or she should develop professionally (talents, skills and potential) as well as reflect on one's achievements in the classroom, do research, share experience and evaluate courses (Komorowska, 2002:11-14).

No specific Spanish definition was provided.

3.1.3. Concepts related to education which are relevant to e-learning

Adaptive learning (przystosowawcze uczenie się) – instruction in which the level of learning material is adjusted to the level of the learner`s knowledge and skill (Hyla 2016: 334).

Chunking (porcjowanie materiału uczenia się / atomizacja wiedzy) - division of learning material into parts corresponding to a specific learning goal (Hyla 2016: 334).

Knowledge management (zarządzanie wiedzą)– the process in which the knowledge and experience of course participants are gained, organized, stored and retrieved (Hyla 2016: 345).

LO – **Learning object (obiekt kursu)** – a fragment of learning material which enables achievement of a specific learning goal (Hyla 2016: 339).

Materials (materiały) –the resources used in education (learning and teaching) including commercial materials (global and local coursebooks, textbooks,

teachers' books, tests, visual aids), reference materials (dictionaries, grammar books, readers) as well as teacher-prepared and learner-generated materials (Mc Grath 2013:2-5).

Multilingual project products (**wielojęzyczne produkty projektu**) teaching and learning resources (coursebooks, presentations, courses) prepared in various languages (Glosariusz terminów i pojęć, 2004:196).

Multimodality (multimodalność) – the use of several semiotic modes in the design of a product or an event. Modes, which can be combined in various manner, such as writing, image, sound, colour create messages. They can reinforce each other (say the same thing in different way), play a complementary role or be hierarchically ordered in action films (Kress & van Leeuwen, 2001:20; Kress, 2010:1).

Personalization (indywidualizacja) – the main e-learning principle – adjusting content, form, and way of providing information to individual preferences of the recipient (Hyla 2016: 341).

Portfolio (portfolio)

Russian definition - form of monitoring and evaluation of student achievement, and their characteristics, evidence of progress in learning, the materialized products on learning and cognitive activity, including self-estimation (Pedagogical terminology dictionary online).

Polish definition - the document used to plan, organize and document education, work samples and skills. It is to illustrate development of one's professional career and improvement of teacher's competences (Obidniak, 2002:76).

Spanish definition - collection of tasks that include individual achievement that promote auto-evaluation and gives an alternative to evaluation methods (Klenowski, V. (2005)

Three - layer content structure (trójwarstwowa struktura treści) – the concept of dividing of teaching content into three parts aimed at: recommending knowledge chunk, providing basic information; providing resources for construction of the whole knowledge picture in learner`s consciousness (Hyla 2016: 344).

3.1.4. Concepts related to distance learning

Asynchronous learning/teaching (uczenie się / nauczanie asynchroniczne) - teaching in which learners work on learning material in different time and places (Szabłowski 2011: 27). In asynchronous learning/teaching the basic instruments student uses are computer and Internet. Learning process organizer by means of special software and server creates educational environment called educational portal on which they place didactic materials. Student uses their own computer to retrieve these materials, process them, solve tasks and tests and takes advantage of electronic library

to obtain additional materials to communicate with administration. Linking with the portal takes place in time suitable for the student. Therefore, asynchronous model can be evaluated as effective, cheap, available and open to multimedia (Galwas, 2012).

Digital educational resources (cyfrowe zasoby edukacyjne) - a set of software, information, technical and organizational support, that reflects a certain subject area and implements the technology for its study by different learning activities. Two groups of Digital Educational Resources are defined: information sources and information tools (Noskova, Yakovleva, 2015).

Distance learning technologies (technologie nauczania na odległość)

Russian definition -Technologies of indirect (distant) interaction of students and teaching staff with the use of information and telecommunication networks. (Federal Law "On Education in Russian Federation").

Polish definition - technologies which support distance learning. These technologies make possible to distribute and process teaching/learning materials (Hyla, 2016: 24).

Spanish definition - All the technologies used to develop distance education

E-learning (kształcenie na odległość)

Russian definition: Organization of educational activities and interaction of students and teaching staff with the use of information technologies, hardware and databases. (Federal Law "On Education in Russian Federation")

Polish definition: a method of conducting didactic process in conditions in which both learner and students work in different places and sometimes at different time. Participants of didactic process use not only conventional means but also mainly new informational technologies to communicate. These technologies allow them to transfer voice, video materials, electronic text, documents etc. They also enable for direct contact in real time between teacher and students by means of audio or video conferences despite real physical distance between them (Kubiak, 2000: 11).

Spanish definition: System that allows to teach in the distance with ICTs support (Technology, communication networks, videoconference, digital tv, multimedia resources, etc.) that combines pedagogical perspectives: classical instruction, practice, synchronous and asynchronous contacts

E-learning course (kurs nauczania na odległość)- structuralized resource of e-content used to develop individual competences (Hyla 2016, s. 334) E-learning course includes teaching content, various forms of activities for learners and procedures for learning outcomes evaluation (Szabłowski 2011: 13).

E-learning platform (platforma e-learningowa) lub VLE Virtual Learning Environment (Wirtualne środowisko nauczania) – software which intermediates between a teacher and a learner. It is an application which contains data base, teaching content, discussion forum, repository of tests and a system of logging in for learners. (Szabłowski 2011: 14-15; Słownik e-learningu).

E-learning system (system nauczania na odległość)– a solution based on informational technology supporting teaching process and made available for a wide group of users via computer network (Hyla 2016: 343). In e-learning system informational technologies are used either as means or tools for teaching –learning process. Computers or Internet resources are used. (Szabłowski 2011: 13) The rules of e-learning assume that at least minimum of knowledge needed to complete the course is provided, the process of learning is individualized and learners are allowed to use course resources in time which is suitable for them and needed to solve their problems and tasks (Hyla 2016: 338, SKILLTOM).

Internet conference (**konferencja internetowa**) – the form of distance knowledge transmission in which an individual communicates with numerous persons (Hyla 2016: 338)

Repository (repozytorium) - a site in the web allowing for retrieving content which is structured and verified by the content curators (Hyla 2016: 342)

Self-learning materials (materiały do samodzielnego uczenia się) materials designed to help distance learners to study in their own time and pace. The materials may be created in various forms: text, audio, film, multimedia. Such materials contain learning objectives directly stated, are written in a personal style using I and you pronouns, are self-motivating and allow student`s self-assessment (WikiEdukator)

Synchronous teaching (nauczanie synchroniczne) - teaching which uses immediate contact between learner or learners and a teacher (Szabłowski 2011: 16).

3.2. Comparison of basic terms definitions

Ten terms were selected as basic. The terms connected with information were information **education environment, information resources and informatization.** The following notions connected with competences were chosen: **competence, informational competences, key competences and teacher professional adequacy**. From terms connected with education the notion of **portfolio** was selected. The terms regarded as most important to e-learning were **e-learning and distance learning technologies**.

As far as the definition **information education environment** is concerned, Russian sources stress the function of this kind of environment, which is enabling educational processes through the Internet. Polish definition focuses on the software`s role of

intermediating between teacher and their students. In Spain, the notion is not generally in use.

In Russia and Spain, the same definition of **information resources** is honoured, regarding them as data sets organized in a way which enables obtaining reliable information. Polish definition is a general one and comes from the field of economics. The definition stresses that data which comprise information resources are essential for organization to function.

Russian and Spanish definitions of **informatization** emphasize using informatics and processes connected with its implementation to the benefit of various dimensions of social functioning. Polish definition stresses making data availability for other information processing systems.

All three definitions of **competence** stress that it is the ability to act. Russian definitions stress willingness of an individual to act and act in a way that respects norms and has the aim to achieve certain standards. Polish and Spanish definition emphasizes individual ability to adjust. Spanish definition states that competence is characterized by adequacy to context in which action takes place. Polish definition mentions creativity as a component of competence contains aim of successful action as an element of competence.

Russian and Polish definitions understand **informational competences** primarily as an ability to use modern information technologies. Russian and Spanish definition stress the purpose for which the ability is used which is information processing. Russian definition mentions searching, analysing, organizing, storing and transmitting information. Spanish definition enumerates obtaining, evaluating, storing, producing, presenting and exchanging, information via Internet.

Russian and Spanish definitions of **key competences** emphasize that such competences are essential for professional development and functioning in modern society. Polish definition mentions basic skills such as reading, writing and counting. All three definitions list such key competences as ability to use information technologies, and communication skills, including mastery of foreign language as well as cooperating with others.

Polish definition emphasizes that **teacher professional adequacy** is formally described by educational authorities. When definition addresses teacher`s competences, professional development and self-reflection is stressed. Russian definition specifically mentions five groups of activities in which teacher`s competence is manifested. These activities seem to concern didactic process which is focused on learning-teaching goals is student–cantered and aims at creating environment most favourable for learning.

All three definitions: Russian, Polish and Spanish agree that **portfolio** is a set of material evidence of individual`s performance and a form of evaluation of learner's achievement. Russian and Spanish definition stress that portfolio may serve as a tool of student`s self-assessment.

All three definitions agree that **distance learning technologies** are technologies which make distance learning possible. Polish definition states that the purpose of these technologies is to support, Spanish definition stresses the role of technology in development. Russian definition emphasizes that technology enables student-teacher interaction in teaching-learning process.

Definitions of **e-learning** which were gathered focus on different aspects of the process. Russian definition stresses the role of information technologies, hardware and databases in organizing educational activities and facilitating teacher-learner interaction. Polish and Spanish definitions emphasize the fact, that due to new informational technologies teacher and students may work in different places and sometimes at different time.

4. CONCLUSIONS

The aim of the article was to select notions connected with e-learning, group them and present their definitions in the form of a glossary. Three research questions were formulated:

- How can the terms selected be grouped?

- Are there differences in Russian, Polish and Spanish explanations of basic terms?

- How do the terms differ in Russian, Polish and Spanish explanation?

Twenty-nine notions were selected from handbooks dictionaries and specialized resources devoted to e-learning. They were divided into four groups. Definitions of ten notions regarded as basic were gathered from Russia, Poland and Spain and compared. The following concepts were regarded as basic: information educational environment, information resources, informatization, competence, informational competences, key competences, teacher professional adequacy, portfolio, distance learning technologies and e-learning.

Glossary of terms was presented. The analysis of the definitions gathered allowed for formulation of the following conclusions:

- Selected notions can be divided into concepts related to information, competences, education and e-learning.

- The comparison of basic terms definitions taken from Russian, Polish and Spanish resources has shown similarity in the basic means they are understood. Differences can be observed in focus on functions of technologies, mentioning software and role or purpose of actions or technologies. The definitions also differ in the degree of specificity and the number of concept`s aspects mentioned. No pattern of similarity between definitions from Russia, Poland and Spain was recognized.

It is hoped that the work will serve as a reference both for designers of e-learning courses and students.

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