



E-LEARNING IN THE DEVELOPMENT OF KEY COMPETENCIES OF STUDENTS

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Introduction

- This presentation describes the author's concepts of the post-graduate studies called „*E-learning in the development of key competencies of students*” during which teachers acquire competences in the field of ICT and e-learning enabling them to use information technology and distance learning in the process of teaching, especially for the development of students' key competencies, as a part of the project called “*Use of e-learning in improving teachers' competences in the area of computer science*” (Program Operacyjny Kapitał Ludzki, Human Capital Operational Programme, Task 9.4).



Introduction

- The author focuses in particular on such conceptual aspects and assumptions of the post-graduate studies as:
- programme of the studies,
- purpose of study,
- methods of study,
- methodological fundamentals of postgraduate studies,
- skills,
- documentation and other issues.

Content of the presentation

- Introduction
- 1. Description of training courses run as part of the project
- 2. Description of the core programme of the postgraduate studies “E-learning in the development of key competence of students”
 - 2.1. Certificate
 - 2.2. Purpose of study
 - 2.3. Methods of study
 - 2.4. Skills
- Conclusion

Introduction

- Key competences for lifelong learning are a combination of knowledge, skills and attitudes appropriate to the context. They are particularly necessary for personal fulfilment and development, social inclusion, active citizenship and employment.
- Key competences are essential in a knowledge society and guarantee enhanced flexibility in the labour force, allowing it to adapt more quickly to constant changes in an increasingly interconnected world. They are also a major factor in innovation, productivity and competitiveness, and they contribute to the motivation and satisfaction of workers and the quality of work.
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Key competences should be acquired by:

- young people at the end of their compulsory education and training, equipping them for adult life, particularly for working life, whilst forming a basis for further learning;
- adults throughout their lives, through a process of developing and updating skills.
- The acquisition of key competences fits in with the principles of equality and access for all. This reference framework also applies in particular to disadvantaged groups whose educational potential requires support. Examples of such groups include people with low basic skills, early school leavers, the long-term unemployed, people with disabilities, immigrants, etc.

Eight key competences in „Recommendation of the European Parliament (2006/962/EC)“

This framework defines eight key competences and describes the essential knowledge, skills and attitudes related to each of these.

These key competences include:

- communication in the mother tongue,
- communication in foreign languages,
- mathematical competence and basic competences in science and technology,
- digital competence,
- learning to learn;
- social and civic competences,
- sense of initiative and entrepreneurship,
- cultural awareness and expression.

Key competences in „Recommendation of the European Parliament ... (2006/962/EC)“

- These key competences are all interdependent, and the emphasis in each case is on critical thinking, creativity, initiative, problem solving, risk assessment, decision taking and constructive management of feelings.
- That is why it is very important to prepare teachers so that they are able to develop students' key competencies using innovative teaching methods and technologies, with **e-learning** being the main tool.

About Project *"Use of e-learning in improving teachers' competences in the area of computer science"*


PROJECT OBJECTIVE. Topicality of project
Postgraduate studies in

- 1. *"Information technology education in schools",***
- 2. *"E-learning in the development of key competencies of students"***

as well as training in the form of improvement courses such as

- 1. *"Teacher as a creator of the school's educational space in the Internet or how to launch and manage an educational portal?",***
- 2. *„E-learning in the teaching profession",***
- 3. *„Multimedia in improving the quality of teaching and educational process"***

should be able to fill the gap in the current offering of educational services in the Silesian Province.



The postgraduate studies of the project content includes three groups of subjects :

The first group - these are general subjects, whose goal is to improve teachers' general pedagogical and humanistic competencies (*learning theories, ethical, cultural and legal aspects of use of ICT in the educational process, teaching computer science and e-learning and competence in mathematical statistics*).



The postgraduate studies of the project content includes three groups of subjects: (C.D.)

The second group - these are subjects related to the development of skills in using ICT tools and resources

(Office package (text editor, spreadsheets),

Databases,

Computer Graphics,

Computer Networks,

Computer Architecture,

others).



The postgraduate studies of the project content includes three groups of subjects: (C.D.)

The third group comprises subjects related to the methodology of teaching computer science, information technology and computer-aided instruction (higher education ICT programmes) and e-learning (running a distance learning platform, its management, development of distance courses, resource utilization, conducting lessons in remote mode), including the formation and development of students' key competencies in the case e-learning programmes.

Competencies in an operationalisation context

Post-graduate programmes will help to ensure preparation of teachers to use e-learning in the development of students' key competencies for lifelong learning and other important competencies in an operationalisation context including (Furmanek, 2004):

- Planning, organizing and evaluating their own learning by students.
- Communicating effectively in different situations.
- Effective coordination in the team.
- Solving problems in creative ways.
- Efficient use of the computer.



Competencies can be successfully developed by using

- ICT,
- e-learning,
- CMS systems (Drupal),
- CLMS systems (MOODLE),
- using Web 2.0, 3.0 (videoconferences system (Big Blue Button)), and
- other technologies

Table 1. Programme of the post-graduate studies called *E-Learning in the development of key competences of students*

Nr	Subjects
1	Multimedia techniques and principles of the creation of multimedia teaching material
2	Monograph lecture (E-Learning in the development of key competences of pupils)
3	Computer Graphics
4	Computer Networks
5	Office package (text editor, spreadsheets)
6	Databases
7	Content Management System (CMS)
8	Content Learning Management System (CLMS).
9	Developing educational Web-sites. Basics of Web-Design.
10	The methodology of distance learning of humanities (Polish language, foreign languages, etc.)

Table 1. Programme of the post-graduate studies called *E-Learning in the development of key competences of students (C.D.)*

11	Use of E-learning in the development of spirit of initiative and entrepreneurship
12	Computer Architecture
13	Statistical tools for measuring the teaching and evaluation in distance education
14	Ethical-legal, and social aspects of distance learning
15	Organizational forms of education and distance learning
16	Psycho-pedagogical foundations of teaching - distance learning
17	Educational technology in distance learning
18	The methodology of distance learning humanities (Philosophy, civics, History)
19	E-learning in the education of disabled people
20	Methods of teaching mathematics and other exact and natural sciences in the remote mode

21	E-learning in developing students' intercultural competence and cultural awareness and expression
22	Theory and practice of distance education
23	Teacher Competencies for distance learning in a knowledge society
24	DIPLOMA SEMINAR
25	TOTAL 398 h., (100 L., 235 h. Lab.class, 100 h. Practical class, others)

Abbreviation:

C – coursework pass/fail

CG – coursework grade

E - Examination

L – Lecture

P – Practical class

S – Seminar

L – Laboratory class

Purpose of study

- Developing theoretical knowledge and practical skills in e-learning and its use for the development of key competencies of students;
- Improving the competence of students in the use of innovative forms, methods, learning technologies, especially technologies for distance learning, as one of the most adequate and modern technologies, adapted to the needs and challenges of the information society;
- Preparation of study participants to act as tutors (remote teachers), course authors, distance education support system administrators (as in CLMS MOODLE) and system administrators for CMS (Joomla!, Drupal, Wordpress, etc.).

Skills

The most important skills that students are expected to develop include:

- Using local and global computer networks, communication and finding information on the Internet.
- Creating and editing electronic documents, analysis of data in spreadsheets, creating and managing databases.
- Development of interactive multimedia educational materials.
- Skill in the practical application of the tools of mathematical statistics in pedagogical research.
- Managing and maintaining the CMS and the CLMS.
- Creating educational Web sites. Basics of Web-Design.

Skills (C.D.)

- Application of information technology in a teacher's work.
- Supporting and implementing measures and tools of information technology.
- Methods of teaching some of the humanities and sciences, including computing, in remote mode.
- Theoretical knowledge and practical skills in the field of distance education and its use for the development of key competencies of students.
- Competence in e-Learning: acting as an administrator, a course author, a tutor.
- Resolution of conflicts in virtual groups, the effective organization of working and learning on a remote basis.

Methods of study

- Classes are run using **activation methods** (in addition to lectures and seminars using a projector). Workshop and training classes are also run as well as analyses of specific cases for those pursuing studies for persons in employment (Saturdays and Sundays) in classrooms and computer labs equipped with advanced equipment and software, connected to the Internet.
- Students receive methodological and didactic materials, including basic materials for teaching the subjects in **electronic versions**, available on the distance education platform maintained by the Faculty of Ethnology and Sciences of Education in the form of remote courses.
- **Up to 50% of classes** will be held in the remote mode with the active use of **e-learning courses** and other electronic resources available on the platform of the Faculty of Ethnology and Sciences of Education.

The methodological fundamentals of postgraduate studies "E-learning in the development of key competencies of students" have become

- the constructivism is a learning theory of knowledge (J. Piaget, L.S.Vygotsky, S. Papert),
- the theory active learning (L.S.Vygotsky, Z.Krygowska, N.F.Talyzina, P.Y.Galpierin, W.W.Dawydow),
- the theory of developmental teaching (W.W.Dawydow, A.N.Leontjew, D.B.Elkonin),
- sociocultural theory and the zone of proximal development (L.S.Vygotsky),
- the theory of problem-oriented learning (Cognition and Technology Group at Vanderbilt),
- the cognitive flexibility theory (R.J.Spiro, P.J.Feltovich & R.L.Coulson),
- situated learning (J.Brown, A. Collins & P.Duguid, W.Winn), theory of "knowledge building" (C. Bereiter, M. Scardamalia),
- collaborative learning (C.Bereiter, J.Oshima, M.Scardamalia, R.Slavin, L.S.Vygotsky), and many others.

Profile of successful graduate:

- After completing the studies, graduates have theoretical knowledge and practical skills in the field of e-learning and its use for the development of key competencies in students in all types of schools.
- In particular, study participants are competent to act as tutors (remote teachers), course authors, distance education support system administrators (for example MOODLE CLMS) and system administrators for CMS (Joomla!, Drupal, Wordpress, etc.).
- They have skills in the preparation of interactive multimedia educational materials, competence in the teaching methods of some of the humanities and sciences, including computing, in remote mode.
- They also have theoretical knowledge and practical skills in the field of distance education and its use for the development of key competencies of students.

CONCLUSION

The above-mentioned key competencies are the basis and indispensable components preparing every young person to function in a knowledge society.

That is why such great importance is attached to the author's concept of studies and similar training courses, as described in this presentation, based on the use of innovative forms, methods and didactic means, particularly e-learning, designed for teachers teaching young people (pupils, students) and developing their competencies.



Thank you for your attention !