

E-LEARNING TOOLS IN DISTANCE AND STATIONARY EDUCATION

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Abstract

The foundation and development of the Information Society set new tasks before universities, particularly technical schools all over the world. Since the knowledge of computer science doubles approximately every three years, there is a necessity for IT specialists of a constant self-education. Following the changes is possible only using electronic tools and information stored in the Internet. The fact is that a lot of universities do not pay enough attention to get their students into the habit of using e-learning tools every day. Since higher education needs to be effective and efficient, it is indispensable to use distance learning tools to support both stationary and constant learning. This paper presents the comparative research of the level of the application of the e-learning tools, conducted among the students of computer science of the Academy of Humanities and Economics in Lodz.

Key words: e-learning, distance education, stationary education

1 Introduction

The foundation of the Information Society in 21st century set new tasks before universities. Economy changes connected with falling down communism caused education boom and increased a number of students without a significant growth of government's expenditure on education. In the first years of transformations in Poland, a master degree was a sort of insurance against unemployment. That is why, students agreed on all payments and a lower level of studies, shown by a lower number of scientific staff [1].

Education boom and consequently a lower education quality is not only a Polish high education feature. A growing number of students causes problems in all industrialized countries [2]. The greatest universities are too old

and prestigious to follow all new trends. The process of introducing new technologies into education is slower and more complicated than in business or science [6].

What kind of abilities are expected from a university graduate? The foundation of a new social structure called Information Society requires using data communications as a main factor of intellectual and economic development. Creating, storing and using information are key issues. As a human knowledge resources double every six years, more than a half of information absorbed during education process becomes out-of-date when a young person graduates from a university [4].

Therefore, professional skills and an ability of self-education are on the same level. People who are not capable of a constant supplementing their qualifications are not full-value employees [3].

2 Target and Method of Research

According to earlier researches, we claim that using e-learning tools has a positive influence on education quality [5], [7]. On the other hand, students prefer traditional education forms [7].

The authors of this paper are interested in how students of a different kind of studies estimate the level of e-learning, as well as the influence of using electronic and computer tools on education quality. The most important questions are:

1. How often and why are e-learning tools used?
2. How is the level of e-learning evaluated by students? Is it useful for them?
3. What kind of advantage does e-learning give?

To answer these questions we conducted a questionnaire research in two groups of students of the Academy of Humanities and Economics in Lodz:

- group of 20 students of regular (stationary) studies of 4th and 5th semester,
- group of 20 e-students of 4th semester of PUW – Polish Virtual University, studying by means of the distance learning platform.

The regular students are the main subject of the educational process. The quality of their education determines the perception of the school. At the end of the studies most of them start their first job. As a result, their opinion on education is verified by the experience gained at work.

Polish Virtual University (PUW) is a project of AHE which offers distance studies in four faculties, two of which end with a master degree. PUW is the most developed distance learning project in Poland. First e-students started education in academic year 2002/03. Nowadays there are 700 e-students who use distance learning methods only. The faculty of Management and Market-

ing was the first offer of this type in Poland [4], [5]. The syllabus of e-studies is almost identical to the one of regular studies in AHE, though the distance learning method puts more emphasis on information tools.

3 Statistical Data and Description

Table 1 shows how often and for what purpose e-learning tools are used. We can see that more than 80 per cent of the e-students claim that modern information tools are used to contact computer scientists while in the regular students group the proportion is lower (only 60 per cent). The distance learning students more often come into contact with e-learning tools during their classes. More than 40 percent of the regular students do not have any contact with this form of education. The regular students more often check exam results through the Internet and use multimedia and electronic materials to study. All the e-students and most of the regular students claim that information technologies are used to maintain contact.

Table 2 presents electronic didactic materials used by students to study. Both the e-students and the regular students value highly multimedia, electronic materials, links to professional websites, and data found in the Internet. We can see that the e-students more than the regular ones receive more electronic materials due to the specific feature of distance learning.

Table 3 shows the level of using e-learning according to both groups of students. 77 per cent of the e-students claim that computer and information tools improve the standard of classes, 12 per cent of them claim the opposite. Among the regular students 65 per cent agree (definitely yes or rather yes), and 20 per cent of them do not agree with that fact. The cause of this phenomenon could be a poor quality of tools used during classes or a negative attitude towards e-learning.

Only 33 per cent of the regular students find the level of using e-learning tools satisfactory while 25 per cent of them claim the opposite (statement 15). On the other hand, 75 per cent of the e-students give positive answers.

From the facts showed in Table 4 we conclude that the regular students have a worse opinion about e-tools used during their classes. On the other hand, the e-students are satisfied with e-learning tools.

Table 1. Using e-learning. Frequency and goal.
k – regular students, stationary learning; w – e-students, distance learning

		I agree	I partially agree	I have no opinion	I partially disagree	I disagree	
1	Modern information tools are used to maintain contact with computer scientists	k	15%	45%	25%	10%	5%
		w	6%	76%	12%	6%	0%
2	E-learning tools are used by teachers during classes	k	5%	25%	25%	45%	0%
		w	53%	41%	6%	0%	0%
3	The results of exams can be seen through the Internet	k	30%	65%	5%	0%	0%
		w	59%	29%	6%	6%	0%
4	To study I prefer electronic materials – graphics, text files, etc.	k	50%	40%	0%	0%	10%
		w	12%	47%	29%	12%	0%
5	To study I prefer multimedia	k	35%	50%	0%	5%	10%
		w	12%	35%	29%	18%	6%
6	Information technologies are used to maintain contact with students	k	15%	70%	10%	5%	0%
		w	53%	47%	0%	0%	0%
7	Do you reject computers as a support tool to study?	k	5%	0%	0%	0%	95%
		w	0%	0%	0%	0%	100%

Table 2. Using e-learning. Didactic materials
k – regular students, stationary learning; w – e-students, distance learning

The most useful materials for learning in Your opinion are:			I agree	I partially agree	I have no opinion	I partially disagree	I disagree
11	Multimedia	k	55%	35%	5%	0%	5%
		w	25%	63%	13%	0%	0%
12	Electronic materials	k	50%	40%	5%	5%	0%
		w	56%	44%	0%	0%	0%
13	Links to professional websites. Data found in the Internet	k	55%	30%	15%	0%	0%
		w	44%	50%	6%	0%	0%
University and teachers provide you with materials such as:			I agree	I partially agree	I have no opinion	I partially disagree	I disagree
8	Multimedia	k	15%	50%	25%	10%	0%
		w	20%	53%	13%	13%	0%
9	Links to e-articles	k	10%	50%	30%	10%	0%
		w	40%	47%	13%	0%	0%
10	Links to professional websites	k	10%	50%	35%	0%	5%
		w	27%	60%	13%	0%	0%

Table 3. Level of using e-learning according to students.
k – regular students, stationary learning; w – e-students, distance learning

			I agree	I partially agree	I have no opinion	I partially disagree	I disagree
14	Information and computer tools improve quality of classes	k	30%	35%	15%	20%	0%
		w	12%	65%	12%	12%	0%
15	I find the level of using e-learning tools satisfactory	k	5%	30%	40%	10%	15%
		w	31%	44%	6%	19%	0%

Table 4. How do students estimate the use of e-learning methods?
k – regular students, stationary learning; w – e-students, distance learning.

			I agree	I partially agree	I have no opinion	I partially disagree	I disagree
16	Using e-learning tools is beneficial for the quality of education	k	30%	30%	30%	10%	0%
		w	53%	29%	18%	0%	0%
17	I am motivated to learn by e-learning tools	k	25%	5%	35%	30%	5%
		w	53%	29%	18%	0%	0%
18	Advanced electronic didactic materials help to understand new material easier	k	40%	55%	0%	5%	0%
		w	59%	29%	6%	6%	0%
19	Electronic didactic materials help to learn new material better	k	25%	55%	20%	0%	0%
		w	63%	38%	0%	0%	0%

Table 5. What does e-learning give to the students?
k – regular students, stationary learning; w – e-students, distance learning

			I agree	I partially agree	I have no opinion	I partially disagree	I disagree
20	Time I need to come to classes makes my studies more difficult	k	5%	30%	10%	15%	40%
		w	35%	24%	6%	12%	24%
21	Information technology in a student – teacher contact is not equal to a face-to-face conversation	k	10%	45%	20%	20%	5%
		w	0%	12%	0%	47%	41%
22	Information technology in a student – teacher contact complements traditional ways of contact very well	k	15%	60%	5%	20%	0%
		w	29%	71%	0%	0%	0%

In Table 5 we can see questions which provide the authors of this paper with the answer about the effect of e-learning. The first factor is time. It takes an average e-student more than 2 hours to come to classes, and despite the fact that the classes are ran only twice during the semester, for most of the e-students it is too much. We can see it in the students' answers. More of them agree that time of travelling makes studying more difficult. On the other hand, 55 per cent of the regular students do not find any obstacle to overcome.

The regular students are sceptical about information technology. 55 percent of them consider that this form of communication is not equal to a face-to-face conversation. The opposite opinion is given by the e-students. 80 per cent of them do not agree with this statement (statement 21). However, both the regular and e-students agree that information technology complements traditional ways of communication.

4 Summary and Conclusions

From statistical data presented above we conclude that e-students have more confidence in information tools than regular students. The e-students have a more frequent contact with e-learning tools (question 2), they use e-tools to contact with their professors more effectively (question 1 and 6), they more often receive useful didactic materials from their professors (questions 9-13), they evaluate higher the level of e-learning usage, (question 14 and 15), and they evaluate higher the usefulness of e-learning (questions 16, 17 and 19). We claim that after graduation, e-students will be able to supplement their knowledge and education as well as follow the changes in information technology in a better way than regular students. Therefore, e-students should have a better position on the labour market than regular students.

Due to the statistical data presented in this article we conclude:

1. Distance learning method as a strict e-learning method is fully accepted and positively estimated by e-students.
2. Didactic materials and information tools supporting regular education are also positively estimated.
3. The most important positive e-learning results are:
 - better understanding of absorbed knowledge,
 - the ability to find proper materials and information sources,
 - accelerated efficiency and the speed of learning,
 - a better ability of absorbing contents and skills,
 - shortening the time of preparation to classes (time to come to classes).
4. University efforts to introduce new teaching methods are estimated positively.

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