

PREPARING STUDENTS FOR THE USE OF E-LEARNING IN HIGHER EDUCATION

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***Abstract:** The article showcases the results of the research on the level of preparation for using e-learning methods by students starting higher education. The process of learning using modern information and communication technologies is significantly different than the traditional learning approach. In a much wider range it is based on the student's own work, it forces a bigger responsibility of the learning results and their own development. The inner motivation and the ability of time management are increased. The effectiveness of distance education and mobile learning in didactic practices in academic education will be determined mostly by the attitude of the students rather than by modern digital devices.*

Keywords: e-learning, distance learning, e-learning methods, learning skills, effectiveness of e-learning methods, experience of the students in using e-learning

INTRODUCTION

The share of e-learning methods in higher education used in the didactic process is increasing gradually. The character of the learning process is also changing. In lower tier schools it was mostly the teacher who took the responsibility of the learning results, he organized the educational process and took care of the proper learning environment. In higher education there is much more emphasis on individual work, individual gathering of knowledge and preparing for future employment. It is directly connected to developing key competences that prepare the students to function in the job market and for lifelong learning. Gathering knowledge and skills is a crucial condition that is necessary to function properly in a dynamically developing world where technological advancements are becoming increasingly essential.

1. USING E-LEARNING METHODS IN HIGHER EDUCATION

1.1 Learning process and new technologies

Supporting learning by using modern digital technologies includes two key elements. The first key element is using specific media devices such as computers, mobile devices, computer networks which are used for acquiring and presenting didactic materials. The second element is matching learning and teaching methods to a specific medium. The latter aspect of learning, connected with selecting the proper methods, using technology has not been extensively covered in literature. Only contemporary research shows that the effectiveness of the learning process is more of an outcome of the chosen method rather than the used learning medium.

In the 90s and at the turn of the 20th century, the designers of the learning process focused mainly on the new usage for computer tools in the learning process. The fascination with information and communication technologies was evident because they offered possibilities unknown at that time. It was also the time of the dynamic development of the Internet that allowed introducing new standards in distance learning and teaching.

Today, upon acquiring experience in implementing new forms of learning based on electronic devices, the approach that started prevailing is the one that focuses on the needs of the students and teachers as well as on the specifics of the didactic process aided by technology. However, there has been no major breakthrough in the improvement of the effectiveness of the learning process due to introducing new technologies - as some researchers have optimistically anticipated. There are also no signs of a significant transformation in learning techniques (Mayer, 2013). On the other hand there is a progressing virtualization of the educational resources that are replacing traditional forms (textual and visual) with digital. There is a significant increase in using computer networks for communication purposes in the didactic process and the new available information tools on the web are being adapted for the purposes of the learning process on all levels.

The specifics of the education aided with new technologies require, however, proper competences in learners and teachers. The information competences are very important - the ability to move freely in cyberspace. The interconnected computer competences acknowledge skills in using ICT technologies, including using computer equipment and telecommunications systems (Internet, local networks). Media competences, including knowledge and skills essential to understanding media messages, familiarity with formats in which data is saved, stored, communicated and presented. These competences constitute the foundation for the individual learning process and are the pillars of lifelong learning (Lau 2011).

1.2 Problems faced by e-learning students

Experts involved in introducing e-learning in practice notice a number of significant problems faced by e-learning students (Kumar 2015).

The first problem involves the need to adapt to the new virtual conditions of learning. Using computer based learning and on-line teaching requires proper competences and a certain proficiency in using new technologies. The specifics of learning in a traditional classroom and in a virtual class are clearly different and many people find it difficult to adjust to the on-line learning environment. The habits formed in the traditional education often involve a passive approach of the recipient of the information. Passive listening and taking notes is still the dominant form of activity in many classrooms and is significantly different from the educational activities on which a properly designed e-learning course should be based.

Another problem is connected with access to a proper technical infrastructure. Learning using technology requires specific devices, unlimited Internet access and access to its many services. Students learning on-line usually lack technical support, thus they encounter technical problems that severely hinder learning.

Not always do the learners meet the requirement of having digital and information competences. Basic computer skills are no longer sufficient. Advanced knowledge of electronic sources of information and information tools (utility programs, networks applications, mobile devices) is necessary as well as using them proficiently.

Among the difficulties indicated by the users of e-learning and distance learning systems is effective time management devoted to learning. Despite the easy access to the course at any time, e-learning requires a significant amount of work as well as being systematic and dutiful. Creating the appropriate amount of time is one of the most important factors deciding on the effectiveness of the on-line education method.

The motivational aspect and the problem of time management are inseparable. Practice shows that many learners starting e-learning courses do not finish them. They lack motivation and the will to continue their individual effort of self-study. The participants of on-line learning give up too often. To increase the quality of learning in this respect is to introduce clearly defined goals, constant monitoring of progress and support from the teacher and friends. These are the elements that the designers of e-learning systems should focus on.

Despite the arising difficulties, the universal character of e-learning methods will make them more popular on a wider scale, particularly in lifelong learning and just-in-time learning. That is why universities training their students for the modern economy should also teach them to use e-learning methods and provide them with the necessary competences and introduce self-study.

2. PREPARING STUDENTS TO USE E-LEARNING METHODS

2.1 Goals, issues and methodology

The popularity of e-learning methods in higher education, although used not as dynamically as at the turn of the 20th century, is still rising. Many universities use this method in order to cut costs. However, the question is whether the students are ready to use the proposed forms and methods of education and do they see them as convenient and effective. That is why the goal of this research was to gather the information on the level of preparation of the learners starting higher education to use e-learning methods in their education. The obtained results allow us to answer the following research questions:

1. What is the experience of the students starting higher education in using e-learning?
2. How do the students evaluate e-learning methods?
3. What methods of learning do the students consider the most effective?
4. What factors, according to the students, contribute to the motivation in the learning process in the context of using new technologies?

The survey research (using an on-line form) was conducted from January to June 2015. The recipients were first year students from the universities in Cracow in the social and humanistic studies programmes. 153 answers were received.

The characteristics of the researched group are in Table 1.

Table 1.

Characteristics of the researched group		
No.	Category	Number of respondents
1.	Gender:	
	woman	119
	man	33
2.	Age group:	
	from 19 to 21	105
	from 22 to 25	36
	from 26 to 30	4
	above 30	7

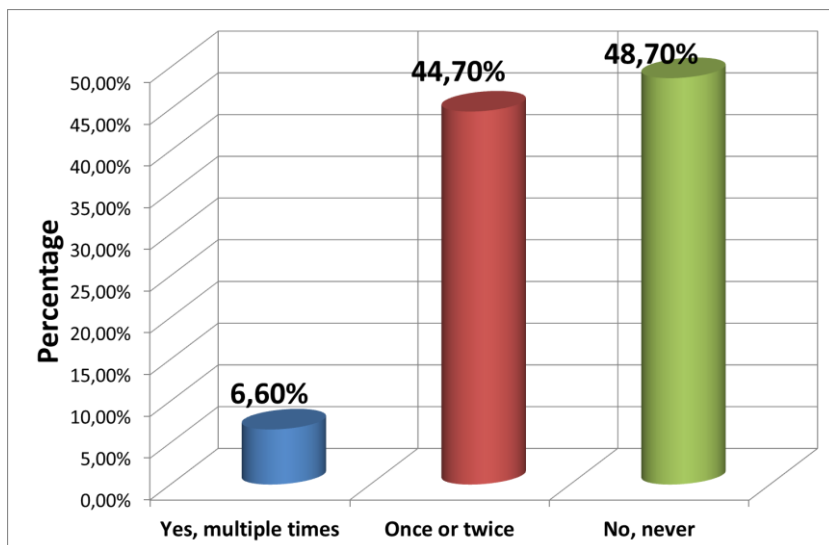
3. Student status:	
full-time	110
part-time	42
4. Place of residence:	
town	77
city (up to 100.000 citizens)	30
large city (more than 100.000 citizens)	45

Source: own research

2.2 RESEARCH RESULTS

2.2.1 Educational experience of the respondents in e-learning.

One of the basic factors that shape the opinions on e-learning methods are past experiences. Participating in one of the e-learning forms of education allows to make an initial evaluation, formulate an opinion and to realize one's preferences. As the results show about a half of the respondents (51%) admitted they have encountered mobile learning, aided by technology. From this group, however, only 6% participated more than once in various forms of learning using e-learning methods



(Figure 1)

Figure 1. Participation in e-learning courses

Source: own research

Detailed data on the respondents who participated in one of the e-learning methods is presented in Table 2. The obtained results show that the share of e-learning and distance learning is tied to a specific age group. In each age category the share of people who had some experience in this area was similar. This can be surprising, however - according to the respondents - full time students were more likely to participate in courses using new information and communication technologies.

Table 2.**Participation in e-learning courses in each category**

Participation in e-learning courses	Many times		Once or twice		Never		Sum	
	Number	%	Number	%	Number	%	Number	%
Age group:								
from 19 to 21	4	4%	48	46%	53	50%	105	100%
from 22 to 25	3	8%	17	47%	16	44%	36	100%
from 26 to 30	1	25%	1	25%	2	50%	4	100%
above 30	2	29%	2	29%	3	43%	7	100%
Student status:								
full-time	6	5%	58	53%	46	42%	110	100%
part-time	4	10%	10	24%	28	67%	42	100%

Source: own research

The forms of distance learning that the respondents used were usually short training sessions on the web. Some of the respondents also used blended learning in high school as a supplementary method.

2.2.2 Opinions of the respondents on e-learning methods.

Whether the students will use new technologies for learning purposes will be largely determined by their individual opinion on the usefulness and effectiveness of these solutions in education. In part it is based on previous educational experiences but also in the statements of the respondents, where one can see common convictions, stereotypes and objections towards e-learning. It is evident particularly in the group that has not used e-learning methods.

The respondents were asked to name the advantages and disadvantages of e-learning methods that were the most relevant. The answers are presented in Table 3 and 4.

The most frequently mentioned disadvantage was the lack of physical contact with the teacher. It was indicated as a negative factor by one-third of the respondents. The lack of the opportunity to ask questions and the lack of support from the teacher makes the learning process - according to the respondents - much more difficult, slows it down and deteriorates motivation. Difficulty to focus with full attention and commitment is what the respondents highlighted. In e-learning problems with regularity arise. Self-control is much more needed.

Table 3.**Disadvantages of e-learning forms according to the respondents**

No.	Disadvantages	Number of answers	Percentage of answers
1.	Inability to contact the lecturer/teacher personally	51	33%
2.	Lack of motivation (will to act, engagement, focus)	40	26%
3.	Unreliable method of verifying the learning outcomes (used grading systems)	21	14%
4.	Low effectiveness of education	19	12%
5.	No contact with peers	17	11%
6.	No direct control	15	10%
7.	Problems with regular work	5	3%

Source: own research

About one-fifth of the respondents said that many e-learning courses use unreliable grading systems, not reflecting the true state of knowledge and skills.

Similarly, as the presence of the teacher is important, so is the supporting peer group. As the results of the research show some students using individual on-line learning were bothered by the lack of interaction with other participants of the didactic process - their peers (11%). Today, in the modern distance learning practice, the dominant methods of learning specific content are largely based on assimilating existing knowledge.

On the other hand, the most important advantage of learning aided by technology mentioned by the respondents is the convenience of home study (37%).

The justifications for this opinion were mixed, from savings on commuting to the comforts of studying at home. Among the advantages of e-learning the respondents

mentioned flexible study time, adjusted to their individual needs (18%) as well as mobility, which is the ability to study anywhere, without the need of going to school or university. Another argument that was particularly interesting was that the e-learning methods decrease stress levels in comparison to traditional classes. Some respondents admitted that the anonymous grading system used in e-learning courses suits them better than being graded directly by the teacher or the lecturer during face to face meetings.

Table 4.**Advantages of e-learning forms of education according to the respondents**

No.	Advantages	Number of answers	Percentage of answers
1.	Home-study (convenience, learning-friendly conditions, savings on commuting)	56	37%
2.	Flexible time of learning	27	18%
3.	The possibility of learning anywhere (mobility)	17	11%
4.	Lower stress levels	17	11%
5.	Individual approach	8	5%
6.	Neutrality and anonymity of the grade	5	3%

Source: own research

Such answers may suggest that the students are not fully convinced to the usefulness of e-learning methods - they value their advantages but the disadvantages still dominate their responses.

The majority of the respondents evaluated the general effectiveness of e-learning methods as average (54%). More than 20% of the respondents see these methods as ineffective and a vast majority (16%) does not have an opinion.

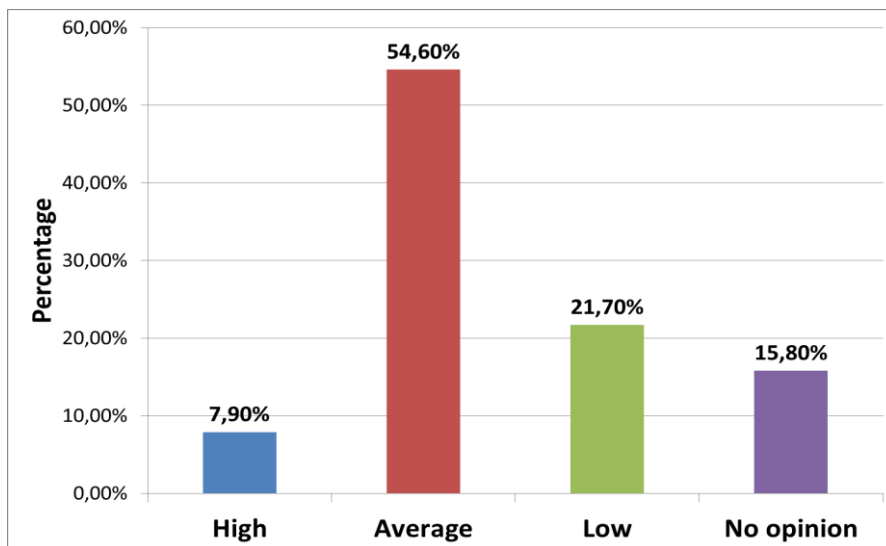


Figure 2. Effectiveness of e-learning methods according to the respondents

Source: own research

The obtained results show, however, that the respondents who said the effectiveness of e-learning methods is low are persons who did not use them at all (about 40% indicated that they are effective). Among the respondents who participated in on-line courses at least once more than 80% indicated that they are highly effective and 14% indicated low effectiveness.

Table 5.

Evaluation of the effectiveness of e-learning methods according to the respondents, depending on past experiences

Participation in e-learning courses	Evaluation of the effectiveness:	
	Yes	No
high	14%	2%
average	71%	58%
low	14%	40%

Source: own research

The preconceptions of the respondents regarding the effectiveness of e-learning methods influence their choices. The group that has a negative attitude towards distance learning will not choose this solution when such an opportunity arises.

2.2.2 Effectiveness of learning in using different learning methods.

The respondents were asked to specify which learning methods commonly used in education are the most effective according to them. The obtained results are presented in Figure 3

The answers of the respondents show that the best results are obtained using learning methods based on practical exercises - as many as 66% indicated this group of methods. The second best methods on the list were methods that allow sharing personal views - discussion was found to be the most effective learning method by 41% of the respondents and group work by nearly 39%.

About one-third of the respondents said that the lecture was the best method and 32% of the respondents mentioned individual work with textbook. The fact that the project method and the problem solving method group scored very low may be surprising.

The above mentioned results show that for the contemporary e-education to be valued highly there needs to be a higher involvement of tools that allow a wide range of interactions between the teachers and the students as well as among the students themselves.

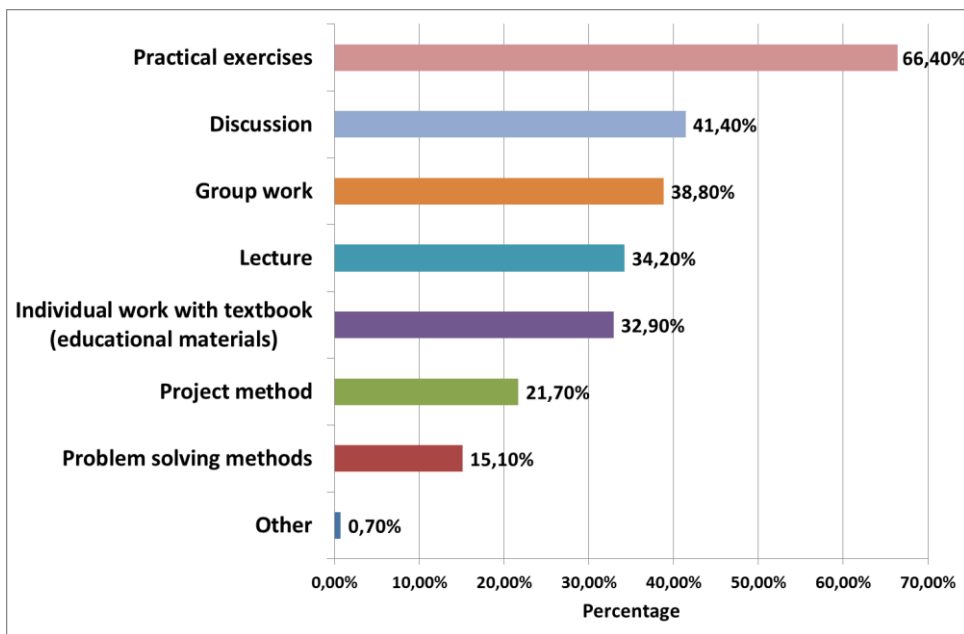


Figure 3. Effectiveness of commonly used teaching and learning methods in the opinions of the respondents

Source: own research

2.2.3 Factors contributing to the motivation in the learning process

Today using computer based learning and on-line learning the student works mainly alone, the contact with the teacher and peers is limited - that is why the individual motivation to learn is so important. The ability to mobilize and plan during the learning process is the basic pillar in e-learning and translates into success or defeat in learning.

Among the most important factors contributing to the increase in motivation in e-learning (Figure 4) the respondents mentioned clearly defined learning goals (60%), interesting way of presenting the educational material (53%) and using theoretical knowledge in practice (47%). They also highlighted the role of the teacher and peers in building the motivation to learn. Mobilization is facilitated by constant supervision of the progress of the students and feedback on the results of learning.

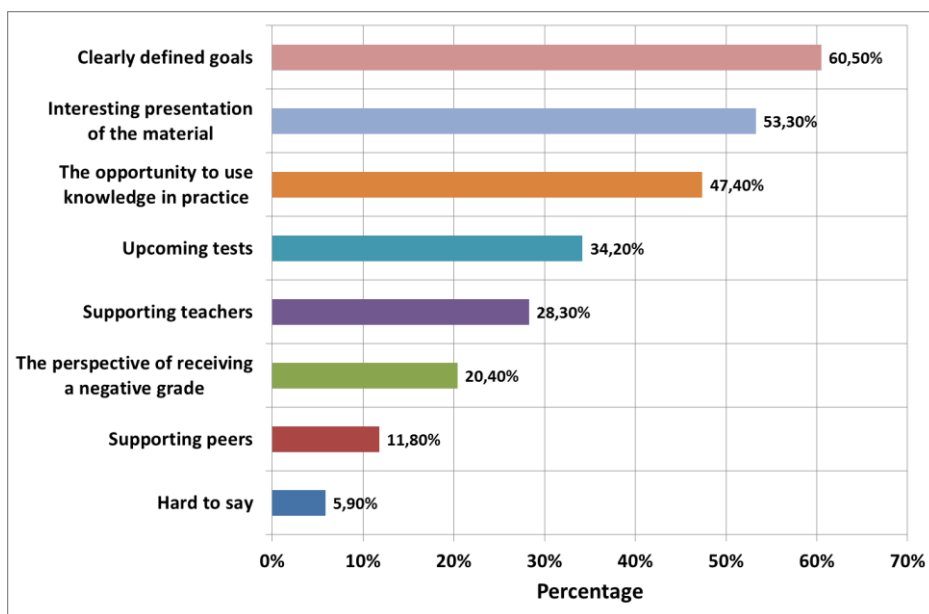


Figure 4. Factors contributing to the increases in motivation in learning.

Source: own research.

3. CONCLUDING REMARKS

Summarizing the presented results of the research it can be stated that about a half of the respondents starting higher education already had experience in using e-learning. Opinions on the usefulness and effectiveness of the computer and web based learning are mixed. The respondents who indicated that e-learning methods are effective are those who had previous experience with them during traditional school

education and individual courses. The respondents who did not participate in on-line education have views with stereotypes on new forms of learning and usually consider them least effective in practice. The respondents highlighted that the most effective methods are based on practical activities and interactions with others - therefore e-learning courses should be designed to incorporate this postulate as much as possible. Another important problem faced by the e-learning users is the motivation to learn and that is why the factors contributing to the individual engagement of the learner during the learning process should be taken into consideration when planning to use distance learning methods in higher education. They are clearly defined learning goals, content presented in an attractive form to the learner as well as appropriate supervision of the progress that creates regular feedback.

The method that will allow to introduce the students to distance learning is blended learning. It can be stated that using hybrid learning in higher education on a wider scale than ever before will allow to develop essential time management skills for learning purposes, shaping crucial habits and attitudes and will prepare them to take responsibility for their individual development.

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