



## ***E-learning Courses Satisfaction in Higher Education from Participants' Perspective***

### **ABSTRACT**

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**RESEARCH OBJECTIVE:** The aim of this paper is to evaluate usefulness of distance learning courses as a form of learning from participants' perspective.

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**THE RESEARCH PROBLEM AND METHODS:** To achieve the purpose, two research methods have been employed: literature review, including rules and regulations concerning distance learning courses, and analysis of the results of a survey conducted among students participating in distance learning course as well as own observations and experiences.

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**THE PROCESS OF ARGUMENTATION:** In the paper it is analysed, how students perceive elearning courses comparing to traditional ones. First, selected Polish Minister of Higher Education and the Senate of Cracow University of Economics (CUE) regulations under which CUE teachers may conduct distance learning courses are presented. Second, the procedure for the preparation of elearning courses at CUE is described. The roles played by individual actors during the preparation of the course are discussed. Next, selected results of the survey conducted among course participants are presented. Finally, conclusions and observations are discussed. Results of the survey confirm that e-learning is a promising type of teaching supporting traditional lessons.

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**RESEARCH RESULTS:** A considerable number of participants found this kind of didactic process useful and attractive. However, an unexpectedly large number stated that they expected more traditional lessons.

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**CONCLUSIONS, INNOVATIONS, AND RECOMMENDATIONS:** The analysis allows to draw interesting conclusions concerning the necessity of selection of participants, problem of systematic work, methods of evaluation, personal contact with a teacher, preparation of teaching materials. All of them will be taken under consideration to improve the course for future participants.

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→ **KEYWORDS:** E-LEARNING, COURSE EVALUATION, DISTANCE LEARNING

## 1. Introduction

There is a considerable number of software tools dedicated to distance learning, so from technical point of view no barriers exist in giving lessons using this form of teaching. More and more universities, schools and also companies use e-learning to support didactic process or train staff. The advantages of e-learning include (Srivastava, 2018): convenience for students, lower cost, up-to-date teaching materials, flexible way of learning, higher degree of freedom for students, better knowledge acquisition. Some disadvantages have also been identified (Srivastava, 2018): lower motivation, technology dependency, social isolation, limited suitability for disabled students, however, the latter depends on the type of disability.

Success of teaching using elearning depends on a considerable number of factors, including (Shroff et al., 2011, Lee & Wella, 2019): usefulness, ease of use, attitude towards use, behavioural intention to use, system accessibility and quality. Crucial factor in learning process is to guarantee that participants reach the learning objectives and they understand and know the subject (Kaleci & Akleman, 2019). This is a challenge especially when using e-learning. AllSamarraire et al. (2019) emphasize that users, both students and instructors, must constantly be satisfied with the elearning systems offered by higher education institutions if they are to continue using them. So, methods to design questions to identify both knowledge and confidence and to estimate actual knowledge should be developed and adjusted to field of teaching.

One of the key factors of e-learning process success is also student attitude, so it is important to measure e-learning readiness from student point of view. Four readiness factors were analysed by Hadining, Sukanta, & Hidayat (2019): people, self-development, technology, and innovation. Khan & Setiawan (2019) found that e-learning improved student perceptions, communication, quality of education, critical thinking and self-learning. Results of survey conducted by Chow & Croxton (2017) suggest that students covet e-learning for its convenience and that real-time technology support is the top priority for them. Also results obtained by Zakariah et al. (2012) prove that students are interested in e-learning technology and the concept of e-learning can be more easily acceptable if it is able to provide at least the same learning experience based on the current education style and able to provide an interactive learning environment for them.

According to survey conducted by Morais, Morais, & Paiva (2014), academic community is still sceptical about e-learning and technologically mediated education, especially among younger students. Participants often claim that learning management systems presenting a plethora of features are not as desirable as systems focused on providing a pleasant and consistent user experience. The attitude of students to e-learning depends of their personal experiences and predisposition. The students with high task value, e-learning motivation and self-efficacy prefer studying in blended learning environments (Keskin & Yurdugül, 2019).

Taking under consideration the above, it seems to be important to measure student satisfaction ex post, which gives a teacher information, among others, what should be

improved in the course and if this method of teaching satisfy expectations. In the paper results of the questionnaire conducted among first year students are discussed and the answer to the question if this group of participants is prepared for such a form of teaching is analysed. In addition, we try to answer the questions what are the most important factors which determine the suitability of the course and the role of a teacher in the whole process. The last part of the paper contains conclusions, recommendation and future work.

## 2. Legal aspects concerning e-learning courses et CUE and the choice of a teaching subject

According to the Polish Ministry of Science and Higher Education and the Senate of Cracow University of Economics regulations, distance learning courses may be conducted at CUE under the following conditions (Decree, 2007; Resolution, 2009):

- a college conducting e-learning courses has to provide an access to IT infrastructure, teaching materials in electronic form, students with personal contact with teachers, continuous evaluation of student progress and constant control of teachers activity,
- a collage has to prepare students to participate in e-learning courses,
- the number of e-learning hours has to be not higher than 80% of the number of hours determined by standards of teaching (according to Decree, 2007) or 60% (according to Resolution, 2009),
- teachers wishing to provide classes using this form of teaching have to apply, in advance, for certification which is issued only if teaching materials are satisfactory from methodology, formal and content sides (Resolution, 2009).

In 2007 the e-Learning Centre (eLC) was constituted et CUE. This unit has been responsible for certificates issuing, e-learning teaching process supervision, software and hardware maintaining, supporting students and teachers and periodical classes inspection.

In figure 1 the procedure for the preparation of e-learning courses et CUE is depicted. The course author, a head of a department (or another unit) and the eLC representatives are involved in the process. The teacher makes a decision if he or she would like to carry out their classes using e-learning, prepares the initial version of a course using e-learning platform, consults formal side with eLC and content-related with the head of his or her department. As a result, the teacher prepares the final version of the course. The head of a department issues a formal approval of the content-related side of the course and, next, eLC issues the certificate. This document is not time-limited, however, the course is monitored and, if irregularities are detected, the agreement may be withdrawn.

The *Information Technology* course was chosen to be partly conducted via the Internet using e-learning techniques (60% hours of the course were organised using e-learning, 40% traditionally, in computer lab). The decision was based on the following assumptions:

- students participating in this course are particularly diverse as far as their knowledge and skills are concerned, so the traditional course is difficult to be conducted for teachers, because in such a diversity some students are not interested in the issue because they already know discussed tools and solutions whereas for others everything is new, so it is not easy to prepare lessons meeting expectations of all students,
- the course is suitable for being prepared in the form of electronic teaching materials,
- there are a great many additional teaching materials on the Internet,
- *Information Technology* course participants are first semester students at CUE, so it was expected that this form of teaching might be more difficult for them, because they were not used to studying, rather to be taught by a teacher.

### 3. Evaluation of the course on the basis of a survey

Quality of learning relates to obtaining the best learning achievements (50%, according to survey carried out by Ehlers, et al. 2005), together with something that is excellent in performance (19%). This understanding is mostly widespread (Ehlers, et al. 2005). The quality of e-learning courses has to be constantly monitored, so after the first semester the survey among the course participants was carried out. Thirty questions were divided into five categories (answers to some questions were skipped in this analysis as no important from the point of view of the goal of this paper): technical issues (questions 1-3), organisation of the course (4-12), communication with other participants and with the teacher (13, 16, 17), content (20-22, 26), homework and tests evaluation (27-29).

The questionnaire was completed by 117 participants from four different student groups but studying the same subject and participating in the same e-learning course. Selected observations are illustrated in tables 1-4. Despite the fact that technical issues may constitute fundamental obstacle to the growth of e-learning and poor or insufficient technology infrastructure can cause more damages than positives for the teaching process, students and the learning experience (Naidu, 2006), this aspect of the course is not discussed in the paper. In tables 1-4 desired responses are placed in dark cells, adverse responses in bright and neutral ones in white (some respondents did not answer individual questions, so the sum of answers is not always 117).

According to the results in table 1, the course was well prepared organisationally. Students understood requirements and rules (question 4, 96 participants claimed they understood everything or almost everything, which constitutes 82.8% of all respondents and only 3 did not understand the rules at all). Also, contact with the teacher was sufficient (question 8: sufficient for 89 students, which is 76.1%). Participants positively assessed respecting the timetable by the teacher (question 9: 115 respondents, 98.3%) and fulfilment of all arrangements (question 10: 109 people, 95.6%). Relatively large number responded that there should have been more traditional lessons (question 12: 51 people, 43.6%).

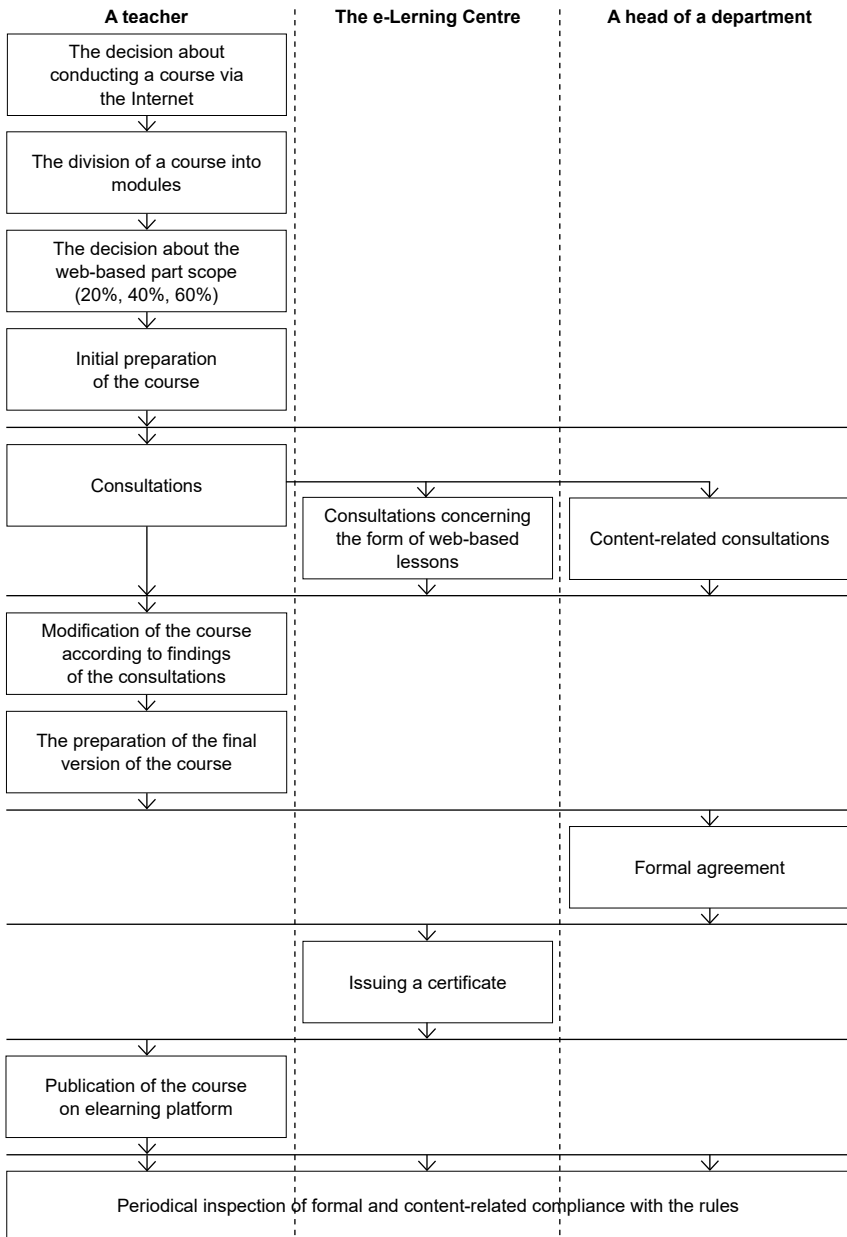


Figure 1. The procedure of e-learning course preparation at CUE.

Source: own preparation.

Table 1

*Selected results of the survey in the course organisation section (dark background – desired responses, bright background – adverse responses, white background – neutral responses)*

The question	Answer / no. of responses	Answer / no. of responses	Answer / no. of responses	Answer / no. of responses	Answer / no. of responses
4. Did you understand requirements and rules of the course	Everything 45 (38.8%)	Most 51 (44.0%)	Partly 17 (14.7%)	I rather did not understand 3 (2.6%)	There were no requirements 0
5. Did the teacher ensure that everyone understood the rules	Yes 84 (71.8%)		I do not know 26 (22.2%)	No 7 (6.0%)	
8. Were the contact with the teacher sufficient	Definitely sufficient 31 (26.5%)	Rather sufficient 58 (49.6%)		Not sufficient 24 (20.5%)	No contact 4 (3.4%)
9. Did the teacher respect the timetable	Yes 99 (84.6%)	Not always 16 (13.7%)	I do not know 1 (0.9%)	No 1 (0.9%)	
10. Did the teacher fulfil all arrangements	Yes 100 (87.7%)	Not always 9 (7.9%)	I do not know 4 (3.5%)	No 1 (0.9%)	
11. Did the teacher check compliance with deadlines	Yes 90 (76.9%)	Not always 9 (7.7%)	I do not know 15 (12.8%)	No 3 (2.6%)	
12. What type of classes should be more	e-Learning 13 (11.1%)	The proportion was just right 53 (45.3%)		Traditional 51 (43.6%)	

Source: own preparation.

Table 2 shows the result of the survey in the communication with the teacher section. Students understood messages (question 13: 111 people, 94.9%). They also understood questions asked by the teacher (question 16: 106 people, 90.6%). Most respondents claimed that no discussions were initiated and stimulated by the teacher (question 17: 70 people, 60.3%). In fact, there had been no discussions organised. Respondents, who answered “yes” (46 people, 39.7%), probably treated forum and chat as a form of discussion, because using them they could have commented homework, asked questions, answered them and shared their experiences, observations and knowledge. However, the teacher had taken part in discussion very rarely.

Teaching materials published on the e-learning platform (tab. 3) were rather useful for students (question 20: 86 people responded positively, which is 74.1%). Teaching materials were also prepared in an understandable form and could have been easily assimilated by students (question 21: 100 people responded positively, which is 86.2%). It is worth to emphasize that desired responses to the question number 21 are: difficult (which means that students were able to understand a content after careful and thorough reading and doing examples) and just right. Only for 10 people (8.6%) the content was too difficult and for 6 (5.2%) easy or too easy, which also is treated as adverse

effect. A considerable number of respondents noticed that additional teaching materials for interested students were published (question 22: 86 people, 74.1%). Most also responded positively to the question of whether they willingly participated in the course (question 26: 69 people, 60.0%), although a great many answered negatively (40%).

Table 2

*Selected results of the survey in the section of communication with the teacher (dark background – desired responses, bright background – adverse responses, white background – neutral responses)*

The question	Answer / no. of responses	Answer / no. of responses	Answer / no. of responses	Answer / no. of responses
13. Were messages understandable	Always 48 (41.0%)	Usually 63 (53.8%)	Seldom 3 (2.6%)	No 3 (2.6%)
16. Were questions asked by the teacher understandable	Always 41 (35.0%)	Usually 65 (55.6%)	Seldom 6 (5.1%)	No 5 (4.3%)
17. Did the teacher initiate and stimulate discussions	Yes 46 (39.7%)		No 26 (22.4%)	No discussions were initiated 44 (37.9%)

Source: own preparation.

Table 3

*Selected results of the survey in the section of teaching materials (dark background – desired responses, bright background – adverse responses, white background – neutral responses)*

The question	Average number of hours
19. How many hours a week, on average, did you devote to study and do homework	3.41

The question	Answer / no. of responses	Answer / no. of responses	Answer / no. of responses	Answer / no. of responses
20. How much teaching materials were useful for you	Very much 41 (35.3%)	Rather useful 45 (38.8%)	I had problems with understanding 27 (23.3%)	I have not used them 3 (2.6%)
21. The content of teaching materials was	Just right 64 (55.2%)	Difficult 36 (31.0%)	Very difficult 10 (8.6%)	Easy/Too easy 6 (5.2%)
22. Were additional teaching materials published	Yes 86 (74.1%)		No 30 (25.9%)	
26. Did you willingly participate in the course	Yes 69 (60.0%)		No 46 (40.0%)	

Source: own preparation.

Most students appreciated assessment rules established by the teacher (see tab. 4). As many as 97 people (85.1%) answered that their progress was evaluated multi-dimensionally (question 27). In fact, students had achieved points for homework, tests (having the greatest impact on the final mark) and also extra points for correct answers to additional questions and solving tasks being included in teaching materials. Most respondents also noticed that the mark of their homework was accompanied by comments (question 28: 79 people, 68.1%). In fact, only incorrect homework had been commented. If a student did a homework correctly they received only maximum number of points, without any comments.

It is worth to emphasize that despite 43.6% of respondents answered that there should have been more traditional classes (table 1, question 12) and also as many as 40% answered that they participated in the course unwillingly (table 3, question 26), only 28 students (24.3%) claimed that the course was not attractive for them (table 4, question 29). This means that students appreciated innovativeness and attractiveness of this form of teaching, however, not always accepted it and not always participated willingly.

Table 4

*Selected results of the survey in the section of homework and tests evaluation (dark background – desired responses, bright background – adverse responses, white background – neutral responses)*

The question	Answer / no. of responses	Answer / no. of responses	Answer / no. of responses	Answer / no. of responses
27. Was your progress evaluated multi-dimensionally	Yes 97 (85.1%)		No 17 (14.9%)	
28. Was your homework furnished with comments	Always/Usually 24 (20.7%) 55 (47.4%)		Seldom 23 (19.8%)	No 14 (12.1%)
29. Was the course attractive for you	Yes 71 (61.7%)	I do not know 16 (13.9%)	No 28 (24.3%)	

Source: own preparation.

#### 4. Conclusions and future work

The results of the survey carried out among students and own experiences of the author enabled to draw several conclusions concerning the course. As the most important there should be emphasized:

- students should have a choice if they want to participate in distance learning courses or if they want to have traditional classes. A considerable number of participants answered that there should have been more traditional classes (table 1, question 12), which means that they are probably not ready to study in this form. Currently, at CUE



the decision is taken by a teacher – if he or she prepares an e-learning course, all students belonging to their groups have to participate. The possible solution is also slight reorganisation of the course by increasing the number of traditional classes and/or organising more face-to-face consultations hours,

- special attention should be paid to the problem of systematic work of students, important role in this plays homework that students have to do once a week after reading teaching material and doing exercises prepared for this week,
- the only reliable method of verification of student progress are tests that have to be organised at least twice a semester and under a teacher supervision. The tests have to have the biggest impact on student final mark,
- the possibility to contact with a teacher has to be ensured. This contact should have various forms: off line (by forum or e-mail), on line (by chat or video communicator) and also personal contact should be available at least once a week or, if it is necessary, more often,
- the author's experiences show that the course very well verifies student abilities. Thanks to appropriate points system students that study regularly or know teaching material well, usually have no problems with achieving positive marks. On the other hand, it is difficult to obtain positive mark if a student does not have minimum required knowledge,
- the survey results indicate that the course was properly prepared. However, the modification is required, especially the number of examples has to be increased. More difficult teaching materials should also be accompanied by video examples,
- e-learning courses require constant verification, concerning both formal and content-related side,
- e-learning courses have to be appropriately prepared so as students have been unable to experience that they do not have to do anything, especially if such a form of teaching is new for them. If they neglect systematic study, they may not be able to catch up just before tests. So, it is very important to inform them in advance about this rule.

The course was changed on the basis of student responses and continued in subsequent semesters. It seems that more and more students have become familiar with this form of teaching, especially that every new semester a few new teachers organise their lectures, exercises and laboratories using this form of teaching. It is obvious that not every course is suitable to be organised this way, but if it is such a possibility, usually there is a considerable number of advantages for both teachers and students. But, a teacher has to bear in mind that the quality of teaching is the most important (including mainly student progress), so this form of teaching has to be constantly monitored and evaluated.

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