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E-learning as a university challenge of the 21st century

KEYWORDS

modern teaching methods, e-learning, student

ABSTRACT

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Introduction: The article is one of several articles summarizing research carried out with a group of foreign students who come to Poland to participate in the Erasmus+ program. Method and research group: Research has been taking place since 2016 and is conducted using an interactive Google survey. The study group consists of 128 people aged 18 to 25 years. The respondents chose Poland, specifically the Maria Curie-Skłodowska University, in order to complete a semester or an academic year. This article will also present structured interviews that were conducted with foreign students. Aim of the study: To learn about the attitude of foreign students towards modern teaching methods (e-learning). An additional goal was to verify the knowledge regarding this method of education and to compare Poland with the respondents' home countries. Results: The respondents come from European countries such as Spain, Portugal, Germany, France, as well as, Brazil and India. Most of them appreciate the possibilities of e-learning (87%). Over half of the respondents (62%) say that in Poland distance learning was rather not implemented until 2020. What changed this situation was the coronavirus outbreak. In social sciences, they also appreciate the possibility of classes in the traditional form due to the possibility of participating in workshops and specialist training, or giving presentations.

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Introduction

Iceland and Norway, the pioneers in modern measures of teaching, are distinguished by a very wide array of efficient methods of education. Practical education, using e-learning, Internet applications, education through fun – this is the basis of education at the higher level in Nordic schools. Due to such methods being implemented, graduates experience no difficulty in finding employment in accordance with their speciality. Without a doubt, however, when analysing the efficiency of education, one should wonder why particular methods prove to be more efficient in particular situations and contexts (Smith, Heindel, Torres-Ayala, 2008).

The model of online teaching, according to Nordic teachers is as follows: entering the Internet, motivating students, establishing the society of students and lecturers, initiating the information flow, constructing knowledge and development (support for learning, lecturer feedback, and the mutual feedback of students) (Sun, Tsai, Finger, Chen, Yeh, 2008).

Interpreting this model, one may state that at the beginning of their education the recipients should be encouraged to work and be motivated to use, e.g. an Internet platform, allowing for easier direct communication. Educators must also obligate their students to receive and sending mail messages systematically. The teacher must be a person that supports education (the basic principle of e-learning) (McGill, Selwyn, 2007).

Lecturers in many countries use modern methods of education. It is interesting to examine how this situation presents itself in the light of the aforementioned models at the Maria Curie-Skłodowska University in Lublin, as seen through the eyes of foreign students, whose numbers increase year on year.

Methodology

In order to gather information regarding the perception of e-learning by foreign students that come to Poland for student exchanges, an original poll study was performed. This study is the first in a series of studies dedicated to e-learning. Its aim is to identify the level of knowledge of early adult persons regarding the aforementioned subject and to gain initial knowledge regarding the dependencies that may occur during implementation. Apart from polls, structured interviews were conducted, with students who agreed to take part in additional studies.

Study hypotheses

For the purpose of the study conducted, the following hypotheses were formed.

1. Foreign students possess knowledge regarding e-learning.
2. Foreign students estimate the blended learning model as optimal.

The additional aims of the paper are: to explore the e-learning theme, to provide an overview of the source literature, and to estimate the causes of using modern teaching techniques.

Study tool

The poll was performed using an interactive Google form. The poll was divided into four detailed parts which served as the basis for further analysis. It consisted of 25 closed and open questions divided into thematic issues: experiences with e-learning, the pros and cons of e-learning, evaluation of modern educational methods.

The interview was structured, consisting of 10 questions referring primarily to experiences from own country and Poland within the context of e-learning, evaluations related to e-learning, and actual level of absorbing particular subjects.

Research group

The research questionnaire was voluntary and ensured the anonymity of respondents. The final analysis took the responses of 128 individuals, 82 females and 46 males (M = 22.3), while the form was sent to at least 200 individuals. They are students of foreign universities who were invited to the study on a random basis. The respondents were students of the social sciences. Therefore, the group may be considered representative for the student community of Lublin. Some did not agree to their responses being used in the study or had no previous experience of e-learning in their country or in Poland. Some of the respondents participated in structured interviews, allowing for qualitative analysis.

The survey supplemented by the structured interview included 102 individuals (71 females and 31 males).

E-learning – characteristics

E-learning allows knowledge to be presented using modern methods and devices such as computers, smart phones and tablets. Such education uses web pages, virtual classrooms or work groups. Even the curricula may be implemented solely via the Internet without the need for traditional (physical) classroom presence (Piecuch, 2010).

It turns out that remote education is more efficient than correspondence education, which would take much more time and yield less positive results (Sysło, 2009).

Academic teachers or trainers upload the entire curricula online. Academic journals are striving for open access, and the community of students and experts may exchange information with everyone able to access the Internet (Abeles, 2005). Verification is also of importance, and this is particularly possible via the Internet (Zając, 2005b).

Without a doubt, e-learning poses a challenge for senders and recipients. One may also list benefits and drawbacks regarding using particular methods. The essential issue include the ability to choose time and place, appropriate for individual preferences (Hermanowicz, Molga, Sito, 2018). Absence or the inability to participate in traditional classes may be supplemented, at any given time and place, with the use of e-learning (Sasin, 2013). E-learning methods may also be dedicated to persons who would otherwise be unable to receive education, or appropriate professional qualifications due to health, economic capabilities, place of residence, or other obstacles (Smal, 2009).

E-learning – basic principles

Currently, e-learning has a purpose in almost every area of social life, business, politics, as well as in people's private lives. It is increasingly implemented in schools at each level of education. Multimedia versions of student books and supplementary online trainings are offered (Okońska-Walkowicz, Plebańska, Szaleniec, 2009). According to studies, an increasing number of students use online services as the basic source of information when doing homework. Social media are an additional, important communication and information exchange channel between education participants. Some think that social portals have unused potential in formal education and should be introduced in e-learning scenarios of classes (Ordon, Sołtysiak, 2017).

E-learning is used by the world's most prestigious universities, as they provide academic courses to all applicants in the world. Not only do they share didactic content but they also allow students who have transcripts to participate in the courses. Universities in Poland utilise e-learning, albeit on a much smaller scale (Dąbrowski, 2013).

Teaching via the Internet allows various forms of electronic didactic materials to be used (Drążek, Komorowski, 2005).

Explaining the above via the cognitive theory of multimedia learning, the efficiency of teaching may be achieved via numerous aspects, including multiple information coding and using various channels to transfer knowledge (Meger, 2006). The negative aspects related to e-learning include one that is primarily a linear model of transferring knowledge, which, according to numerous scholars, is an impoverished way of conveying knowledge. A model which is realised via a "step by step" method cannot include feedback, which may be inadequate for every student who would like to use online courses. What is valuable is to pay attention to preparing methods which will allow for a clear message adjusted to the capabilities of an ordinary student. Without considering exceptional individuals, or persons who display larger difficulties. It is proposed to invent more branching online course models that may meet users' individual needs (Meger, 2012). Particular attention must be paid to the fact that e-learning is not always accomplished without the teacher, therefore, it is possible for students to ask questions and initiate debates regarding a given subject. One may assume that e-learning is a phenomenon that encompasses numerous criteria, including the level of formality. The process may be conducted synchronously or asynchronously. Moreover, remote teaching may be a replacement for the traditional curriculum or simply a supplementation (Wodecki, 2005).

Academic circles and e-learning

The issue of the capability of acquiring competence is mostly dependent on the resources of an individual (Wielbut, 2005). More importantly, e-learning offers the acquisition of knowledge that is available without leaving one's own home, regardless of weather conditions, funds, transportation (Topol, 2012). Additionally, there are specific features that distinguish e-learning from other forms of teaching, as well as opportunities for teaching adults, disabled or foreign students (Walat, 2014).

Due to its wide array of applications, e-learning has many positive aspects and benefits for both the sender and the recipient (Wodecki, 2005). As was already

mentioned, the audience may use e-learning sources regardless of time and location, and the lack of any time limit for completing a particular piece of material may generate better effects. Additionally, e-learning has an economic aspect, as numerous platforms are free to use, and those who charge fees are much more appealing economically than traditional courses (Korcz, Matulewski, 2006).

For universities, the method is much less expensive than conducting traditional courses. Blended learning seems to be an appealing method as well, as it is basically a combination of traditional teaching and e-learning. However, some issues related to more specialist matters should be realised in a traditional way, for example practical classes in medical, psychological or social sciences (Cieślik, 2006).

Ultimately, there is no perfect education method and there is always scope to enumerate a number of pros and cons. However, globalisation is also important in terms of education. Additionally, it is important so that the qualifications acquired at different universities are accepted by employment environments without diminishing the fact that they were acquired online (Zając, 2005a).

Results of the author's own study

The respondents possess knowledge on e-learning. All respondents (100%) have participated in classes, courses or training using this method. However, many of them state that e-learning is an impoverished version of academic classes (75%). Nevertheless, they consider it to be a very useful form of work (81%), as it allows them to achieve their goals and pass courses regardless of the place or time, as their curriculum means they travel often. In other parts of the poll, the respondents were asked to list the aspects (activities) that were important for them in e-learning. The least important were marked as 1 and the most important received 12 (on a scale from 1 to 12). The table below presents the items ordered in the polls and the average value ascribed by the poll participants.

Table 1. Evaluation of particular elements of e-learning according to respondents

Name	Average value
Availability Examples of responses expressed in the structured interview: Gabriel 23 – "Whenever I have time, I can attend a valuable course from Oxford or Cambridge, which can be used in my resume"	11.7
Modernity Marta 25 – "It's great that via a university platform, I am able to take classes from a different part of the world"	11.2

Tab. 1 cont.

Innovation Any 20 – "The innovation of certain pages where we do our tasks whether in Spain or Poland is doubtful, but it definitely has meaning to me in terms of passing classes. We have exams in our own apartments. This provides a lot of opportunities e.g. for people with social anxiety"	10.5
The opportunity to acquire new knowledge Izabel 21 – "I can learn from experts from around the world without needing to spend large sums of money on plane tickets. That was my previous limitation; now it is simply my internet connection"	10
Adjusting e-learning to students' interests Peter 20 – "Often, persons who give classes ask about our areas of interest. However, they still implement their curriculum. Still, if you want, you can learn from anything"	8
The ability of the student to use Internet platforms Laura 23 – "If a student learns something, he does that regardless of difficulties. Many Erasmus attendants come to Poland mainly to party, therefore, e-learning is the best way to get grades"	7.9
The ability to use Internet platforms by the academic teacher Arthur 21 – "Older people cannot deal with technology. Younger persons are great at planning their classes and use modern technology that can be employed later on at my university."	6.8
The ability to evaluate tasks performed in e-learning by the teacher Veronika 20 – "Here, it is a simple grade model. I mostly base on the deadline and the quality of a task. I think that it is more difficult for the student, as in traditional classes students may prove themselves more."	6.1
Communication with the academic teacher via e-learning Laura 24 – "In Poland, I had no issues in communicating with the people who gave the classes. It is easier to establish the rules (criteria) during traditional classes."	5.9
Motivation and the opportunity for the student to plan their work independently Jose 23 – "Teachers give precise instructions regarding deadlines, and if you ask them to extend it, they agree. However, the lack of systematic work means shortcomings. If we don't want to pass the course, it cannot be done."	5.6
The selection abundance of classes conducted via e-learning Yasel – "In comparison to Turkey, in Poland the selection of Internet courses is smaller. Emphasis is rather placed on speaking in English, presenting and acquiring new social skills. This has its pros and cons."	2.3

Source: own research

In this part of the poll, the students gave the highest scores to the accessibility of e-learning (11,7), the up-to-date nature of this method (11,2) and innovation of actions taken on the aforementioned platforms (10,5) or the ability to acquire new knowledge without leaving home. As shown by the data presented, the respondents assigned the lowest scores to communication with the university teacher via e-learning (5,9), the ability to plan their own work and adjusting to deadlines (5,6), as well as the selection of classes conducted via e-learning (2,3). On one hand,

students think of it as an interesting solution. On the other, however, they consider the number of traditional courses to be overabundant for such a brief period of time spent in Poland. For many students, e-learning and the availability of materials published on platforms help them meet the teacher's requirements better. Many of them think that their insufficient level of language knowledge means they get lower grades.

Regarding the question whether e-learning allows more to be learned than during traditional classes, 29% of respondents were absolutely convinced, and 36% would agree under circumstances, together accounting for 65% of all those surveyed. Only 3% think that e-learning does not contribute to acquiring knowledge in comparison to traditional classes. Students prefer a mixed educational model, i.e. traditional face-to-face and e-learning classes (71%). However, students note that e-learning is an irreplaceable opportunity to conduct classes both on the school and the university level. Many students share their experiences related to limitations that would serve as an impediment to their graduating. Using new information technologies, it is possible to gain the appropriate qualifications. In the following question, the respondents could choose more than one answer.

Table 2. Causes of implementing modern educational methods

Cause	Degree (percentage)	Degree (number of replies)
The necessity related to factors outside of the university Example responses of students: "The pandemic would limit my opportunity to study, and cause issues at the university"; "when I found out about my condition, I could even participate in the classes in hospital"	94.50%	121
Teaching method accessibility "tasks can be performed via smart phone, which allows you to function on the go"; "e-learning is a method anyone can afford and there are no excuses"	90.60%	116
No financial limitations for e-learning "E-learning is cheap, You simply have to have a device, and even if you have no access to the internet, you can use free access", "online courses are cheaper because you do not have to include transport, hall rental etc."	79.70%	102
E-learning popularity "A good option for people who are busy and have no time to spend in lecture halls"; "E-learning is a more appealing form of education than traditional and correspondence-based learning, because it is chosen by a larger number of people, both young and older"	67.90%	87

Tab. 2 cont.

The opportunity for those who cannot participate in on-site courses to gain qualifications "Professional obligations often prevent students from participating in classes", "the necessity of financial management and the focus on acquiring knowledge at work was impossible to cope with, but online courses make my work slightly easier"	67.10%	86
A more interesting way of teaching in comparison to the traditional form of education "Learning new applications and programmes is interesting, and on the modern market, which is filled with technology, it may prove an interesting solution", "E-learning provides a lot; many things can be accomplished online without wasting time for transportation, and one can complete more interesting and valuable projects"	39.80%	51
Adjustment of e-learning to recipients' requirements "If I am to sit in a class and watch a film, I would rather do it at home", "It will be difficult to adapt the material to be interesting and valuable to all. It would be done on an individual course"	21.10%	27

Source: author's own research

As revealed by the recipients' responses, the most common reason for using e-learning is the range of challenges posed by the 21st century, related to issues which are independent of universities, as well as students, the pandemic, the weather conditions in various countries, and individual factors (94.5%). One of the most commonly selected options was the availability of educational methods (90.6%) or the lack of financial limitations regarding e-learning (79.7%). 21.1% of respondents think that adjusting e-learning to recipients' needs are of least importance in terms of using this form of education. Particular results with the percentage and the number of responses are shown in Table 2.

Summary

The subject of e-learning is not a new one. Penkowska (2007) notes that conducting e-learning classes is a challenge for students and, primarily, for those who prepare the courses. The courses that were realised in the form of e-learning and blended learning were evaluated very highly by the students. However, they required significant effort and cost from course creators. Each of the experts put much time and effort into ensuring the high quality of the e-learning courses that they had prepared (Penkowska, 2007).

A study performed by Betlej (2009) with a group of 414 students in the 2007–2008 period aimed to recognise the skills and knowledge of WSIiZ students related to the use of computers and the Internet, as well as to research students' preferences regarding particular forms of education and other aspects. The study showed that some students are very well prepared to use this form of knowledge acquisition. The most frequently indicated benefits of e-learning are saving time (26%), the process of education (24.3%), and independent determination of the time and the pace of work (22%). Among the aspects mentioned, those with the least support were saving educational expenses (14.7%) and the lack of necessity to make notes (12.9%). The majority of respondents think that there is a relation between using e-learning and the image of the university (58%). It transpires that e-learning may be treated as a valuable supplement and an addition to existing educational methods. Confirmation of this fact may be found in the increasingly large amounts of examples of Polish universities that introduce e-learning (Betlej, 2009).

Living in the information society forces the introduction of new technologies into all areas, and the process does not omit education. It is a rather large educational revolution for schools and educational institutions. Currently, it is difficult to imagine a life without contact with modern devices, programmes and applications. However, living in the contemporary world is not simple and require us to participate in continuous, *lifelong learning*. The study is a part of a series aiming to increase knowledge regarding modern methods of education. Below, we shall present practical implications that may be created in relation to the study undertaken.

In the light of the results of the above study, we may say that foreign students that arrive in Poland have knowledge regarding e-learning and know the principles how it functions. Each student is able to name at least two platforms that allow for an online knowledge exchange.

In reference to the second hypothesis, the respondents think that blended learning is the most beneficial method, as it is a combination of traditional teaching and modern technology. According to Penkowska (2007), such classes are held in high regard by students, although some acknowledge that they experience difficulties in learning, mostly related to their insufficient English skills.

Based on structured interviews with respondents, author have managed to create examples of practical implications presented below:

1. Information regarding the benefits of remote learning should be presented in media and educational platforms.
2. It is important to ensure a constant contact between students and academic teachers within the process of learning.

3. Students should be informed about the principles of classes that use the modern methods of education.
4. It is also valuable to implement modern methods of education during traditional academic classes in order to increase the quality of classes and learn how to use modern methods used in education.
5. The skill to apply modern educational methods may help graduates in their careers.
6. Information regarding modern educational methods should be provided by specialists.
7. E-learning should be introduced at every level of learning, including the academic.
8. Foreign students should have the ability to combine traditional methods with e-learning, which is also combined with their mobility.
9. More attention should be paid to the skills and abilities of foreign students (including language skills, previous experience with e-learning, as in some countries it is the norm and not an exception).
10. Platform developers should support the implementation of modern educational methods in institutions via staff training, adding information about their products, etc. in order to prepare the academic staff for remote classes.

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