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E-Learning and Blended Learning in the Opinions of Polish Students

Abstract

For the first time in history, the education system has experienced a crisis situation on a global scale, leading to total and forced isolation in social life and communication. In March 2020, full-time classes at universities in Poland were suspended due to the epidemic caused by the COVID-19 coronavirus. This state of affairs resulted in the need to shift scientific and didactic work to be "remote." This article aims to present students' opinions on e-learning and blended learning after several months of experience with such forms of learning. The main research problem was formulated as follows: "What are the Polish students' opinions of e-learning during the pandemic?" The method of diagnostic survey and the questionnaire technique called the SWOT were used in the empirical research. The research was conducted in May and June 2020 in three selected universities. A total of 314 students took part in it. The results indicate that remote teaching has both specific strengths and weaknesses and that there are many opportunities and threats associated with this form of teaching; nevertheless, a larger proportion of the data were related to the weaknesses. Undoubtedly, there are still many

activities that should be introduced into practice and everyday academic education. Perhaps a creative solution will be to introduce only some elements of distance learning, which can contribute to a better acquisition of IT and digital competences and can help students develop activity, self-discipline, and independent learning.

Keywords: distance education, online learning, COVID-19, pandemic, 21st century skills

Introduction

In March 2020, full-time classes at universities in Poland were suspended due to the epidemic caused by the SARS-COV-2 coronavirus. This state of affairs resulted in the need to shift scientific and didactic work to be "remote." This article aims to present students' opinions on e-learning and blended learning after several months of experience with such forms of learning.

The Concepts of E-Learning and Blended Learning

E-learning is teaching with the use of information technology, supporting the didactic process with the help of personal computers, smartphones, tablets (m-learning), and the Internet. The term e-learning refers to the use of electronic technology in teaching to a much greater extent than in traditional online courses or computer-assisted learning.

Blended learning is a style of education that combines traditional learning methods with activities conducted remotely through online platforms. It has been recognized by some of the best universities, such as Harvard, Oxford, and MIT, who use it on a massive scale and build "virtual classes" such as edX or Coursera.

E-learning and blended learning are, in a way, the effect of adapting education to the challenges of the present day. The emergence of the digital society (GUS, 2019), the process of digitalization, and the increasing

use of new technologies impact and condition the education process. New technologies – particularly in the area of IT, but also other social innovations – facilitate very fast access to the existing knowledge base, support content processing, provide analytical tools, and support content archiving and aggregating. The younger generations, which from an early age function "within the network," have access to all information and communication devices, and use social media, nowadays expect completely different methods of education and educational instruments, as well as new roles of the teacher and learner/student.

In the context of the development of learning networks and the growth of the network society, it is worth referring to the concept of Stephen Downes (2021), known as Learning 2050. Downes predicted that in four decades all objects will be able to communicate with people to explain what they are and how to deal with them. The network (even more advanced than the modern Internet) will no longer be a passive network, but will become a dynamic network with individual components able to communicate with each other. It will be a network which will know and learn.

According to Downes, learning will therefore be a continuous process based primarily on people sharing knowledge regardless of age or level of education. It will be a "stream," not the creation of a closed resource that we use throughout our lives. The essence of the education process will be the acceptance of change and the ability to quickly assimilate new knowledge necessary for functioning in life. As the environment will change constantly and rapidly, so will the objects – the tools that we will use. Each of us will create our own network of people and tools that are helpful in the education process, which we will use on an ongoing basis.

Ken Robinson, a world-class opinion leader in the field of developing creativity, innovation, and human resources, listed three key features of the human mind. He believes that (1) people are different by nature, (2) the way to happiness is through curiosity, and (3) humans are creative. These characteristics are now taking us away from the "factory school model" and moving toward a better use of humankind's natural potential, hence the Top 5 trends in modern education (Business Insider Polska, 2018): interdisciplinary studies, micro-specializations, studies without

borders, personalized educational paths, and e-learning and blended learning.

Witold Kołodziejczyk and Marcin Polak (2011) accordingly presented possible scenarios for the educational future. They listed three groups of such scenarios:

> *status quo* (i.e. the institution of school and formal education more or less as we know it from the end of the 20th century); *re-schooling* (reconstruction of the school to adapt to the changing conditions of social life); [and] *de-schooling* (departure from a single, traditional model of the institutions of school and education to many equivalent forms of education, including online education, and maybe even – in the most radical forecast – the end of school as we know it). These scenarios can be a starting point for considering how education will change. (Kołodziejczyk & Polak, 2011, pp. 19–20)

Similarly, the OECD (2020) proposed four possible scenarios, but did not indicate which scenario can or should be implemented. It is up to the national education systems to determine how they develop. OECD scenarios are an interesting catalogue of possible solutions that can be a valuable help for those making the most important decisions in the field of education.

Guglielmo Malizia (2019), in discussing the international processes of de-schooling and re-schooling, described various attempts at out-of-school education. He cited Illich (1972) and educational vouchers; the self-organized learning environment program, launched in India and developed in Europe (Bottani, 2013)[1]; replacing teachers with robots (Castoldi & Chiosso, 2017); homeschooling (unschooling) (Malizia & Nanni, 2015); and finally the UN project called "Education 2030" (UNESCO, 2015).

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[1] The SOLE project began in India in 2008–2009; starting in 2014, Professor Sugata Mitra from Newcastle University in Great Britain developed the School in the Cloud, sitting pupils around a table with a computer on it.

The Pros and Cons of E-Learning and Blended Learning

On the basis of Karl Steffens' theory (2015, p. 47), Michał Klichowski (2017) compared the present model of traditional learning and the new model of generative education. Adaptive learning includes keeping up with changes, managing dangers, reaction to symptoms, intercepting trends by acknowledging their early signs, elasticity, forecasting new trends, and seeking conventional knowledge. Generative teaching, on the other hand, is connected with widening possibilities, enhancing creativity, looking for new ways, solving basic issues, unconventional thinking, foreseeing the future, and rewarding the reconstruction of knowledge.

In the context of smart education, Klichowski (2017, p. 131) stated that the word "smart" is treated as an acronym, meaning the following:

- *Self-education* – The role of the student in smart education involves managing the process of learning, while the teacher's role is only to support this process.
- *Motivation* – In smart education, pupils should be motivated and should learn from their own cognitive curiosity through experience and exploration.
- *Adjustment* – In smart education, the formal course of studying should be flexible, while the school ceases to be a place of knowledge distribution, instead providing space for personalized teaching.
- *Enriched resources* – Materials used in smart education should be diverse and innovative as well as based on the logic of open access.
- *Embedded technologies* – The newest ICT solutions, which enable studying in any given time and place, should be used in smart education.

Obviously, there are certainly many benefits to computer-based learning. One such outcome is improving the effectiveness of self-education, which is obligatory for proper functioning in a changing reality. The school cannot only be a place of passing on knowledge; its task is also to build up

the ability to think independently, seek out information, and rank it as well. Moreover, with the use of a computer we can present certain processes and phenomena which are impossible to observe in natural surroundings, since they occur at a very fast or slow pace. The teacher can treat computers as means of teaching and the students can use them in the process of learning in the classroom while the teacher supervises, or even after school.

Virtual reality is rapidly developing and bringing advancements in various related technologies through the virtual world. It has much potential and plays an important role in the fields of education and training. Mixed reality (MR) is a type of hybrid system that involves both physical and virtual elements. Experimental results showed that after studying with the support of MR technology, students' abilities in geometric analysis (mean difference = 4.36; $p < 0.01$) and creativity (mean difference = 1.59; $p < 0.05$) significantly improved. The students' skill of model visualization was also significantly better than that of the control group (mean difference = 3.08; $p < 0.05$). In general, there were positive results of using the MR to support their study. MR was also better than traditional note-taking in various measured effects (Tang et al., 2020).

From the point of view of a student, the benefits of e-learning and blended learning are as follows:

- individual learning mode – Every participant has their own individual range of necessary knowledge regardless of previously known training material.
- flexibility of teaching and learning – The participant chooses the time and place for studying according to their needs.
- uniformity and timeliness of the teaching material – The participant does not have to worry about lower-quality material in comparison with other participants.
- attractiveness of form – In contrast to the traditional forms, the teaching material may include multimedia resources in the form of presentations, interactive graphics, audio/video recordings, etc.

The research indicates that blended learning maintains or increases access for most student cohorts and produces higher success rates for minority and non-minority students alike (Dziuban et al., 2018).

The results of multiple regression analyses show that the design of blended learning (the quality of technology, online tools, and face-to-face support) and student characteristics (attitudes and self-regulation) predicted student satisfaction as an outcome and that some of the students' characteristics/backgrounds and design features were significant predictors for student learning outcomes in blended learning (Kintu et al., 2017; Neroni et al., 2019).

Aleksander Nalaskowski (2020), when discussing remote teaching and learning during the COVID-19 pandemic, noted three dispositions of an ideal "remote learner": the will to study, a strong motivation for learning, and self-discipline. He also added that these traits are in short supply in today's youth and that what is needed is a change of public attitudes toward learning.

E-learning opens up new possibilities, but at the same time it is impossible to ignore its shortcomings. At the educational level, there are particular dangers to cognitive activity and schooling, which include threats to the cognitive sphere (uniformity and/or reduction of experience), limitations in the perception of problems, domination of pictorial material over verbal material, a flood of ready-made hypermedia information that inhibits creative processing and application, and an inability to make rational decisions and actions.

The inability to select content and information is becoming an increasingly serious problem. Many young people who are addicted to the Internet have trouble concentrating, synthesizing, or connecting content in a logical argument. Manfred Spitzer (2012) began a very important discussion in Germany, claiming that digitization can lead to dementia among people who overuse technology in the process of learning and education. His book, entitled *Digitale Demenz. Wie wir uns und unsere Kinder um den Verstand bringen* [Digital Dementia: How We Drive Ourselves and Our Children Crazy] has become the foundation of criticism against digital abuse in the cognitive process among children and youth.

Spitzer has been very critical of the new media and the new "pseudo-communication." He argues that over-digitalization and over-technologization result in reduced brain capacity and memory. In addition, writing by hand (rather than on a computer) is crucial to a child's development. According to Spitzer, the computer has very negative psycho-somatic effects on youths. Multitasking, typical for computer users, causes increasing difficulties with concentration, unreliable performance of tasks, and problems with mindfulness. According to Spitzer, tablets are an educational evil for children that should be prohibited.

Criticism of the excessive use of the Internet and computers has also been presented in another famous book, Robert Putnam's *Our Kids: The American Dream in Crisis* (Putnam, 2015). In the context of computerization and digitization, Putnam pointed to the problem of unequal access to technology, asymmetry of information and, above all, the fact that children from poor families use the internet thoughtlessly – treating it mainly as entertainment and not as a source of knowledge and learning.

There are barriers to implementing e-learning and blended learning from a learner/student perspective:

- poor knowledge of computer technologies – fear of using new tools;
- a lack of access to appropriate computer technologies – many potential distance learners do not have sufficient computers or additional equipment (e.g., webcams or headphones with a microphone) or an Internet connection with adequate bandwidth;
- a general distrust of novelty – conservatism in most areas, including education;
- a feeling of isolation and loneliness – some distance learning participants have difficulties communicating with people whom they have no direct contact with;
- a lack of self-discipline – many people cannot motivate themselves to learn.

In the times of COVID-19, remote learning is common and the literature contains preliminary research on this form of learning. Objections

from parents and children are listed on the popular educational portal Librus (2020), among others. The difficulties relate to:

- limited equipment – One third of parents struggle to make available the necessary equipment; they are unable to provide each child with an online learning device, so it is shared in these families.
- the scope of distance learning – Some parents (4%) reported that distance learning is not provided in their children's schools; 9% said that distance learning covers less than half of the subjects.
- distance learning formulas – The predominant methods are instructional; teachers, according to parents, primarily chose indirect contact with the students: sending materials from the textbook and exercises for independent study.
- excessive parental involvement – Some (21%) of the parents participating in the survey admitted that they spend five or more hours a day "learning" with their child.
- a lack of direct contact with peers – 59% of respondents and 54% of teacher respondents mentioned this aspect.
- difficulties working independent – This includes planning the learning process and knowing the various learning methods (34% of respondents).
- excessive burden on children – 36% of the parents said that education is definitely excessive, and according to 35% rather excessive.

Difficulties were also formulated by teachers, as evidenced by the following statements:

Preparation for classes takes a lot of time, even exceeding 12 hours. Retrieving returned work and reading it is a difficult and laborious job. Then, checking and entering the description in the e-register takes several hours again. I collapse from exhaustion because there is much more work than before. (Gryc, 2020)

After the first few weeks of online teaching, I can confidently say that it is a sham. When teaching remotely, people do not feel satisfied with their work. They don't know if their effort has been wasted. Another thing is the nature of the subjects: not all of them can be taught online. In Polish lessons, for example, you often need an extensive explanation; a short instruction will not help. You need the energy of the classroom, the questions, the concerns, the "live" teacher–student contact in order to teach. Right now, most classes are done with audio only. (Gryc, 2020)

Jacek Pyżalski and Wiesław Poleszak (2020) pointed out that the student–student, teacher–student, and student–parent relationships, which are at the center of traditional education, remain the same in distance education. The challenge is building them with only indirect communication.

Methodological Foundations of Empirical Research

One of the measures to stop the spread of COVID-19 were school and university closures. In order to cope with this new and unexpected challenge, remote teaching was instituted. It was undoubtedly a new experience for both students and teachers. This fact inspired our empirical study, which aimed to investigate the students' opinions about this form of teaching in relation to their personal experience of e-learning in practice.

Therefore, the main research problem was formulated as follows: What are the Polish students' opinions of e-learning during the pandemic? In this respect, four detailed problems were distinguished: What are the strengths of e-learning in the opinion of the respondents? What are the weaknesses of e-learning? What opportunities are associated with e-learning? What are the threats that e-learning poses?

A diagnostic survey with the questionnaire technique was applied in the empirical research. A SWOT questionnaire was used – it is a tool by means of which it is possible to recognize and analyze strengths and weaknesses as well as existing and potential opportunities and threats.

The questionnaire consists of four open-ended questions and questions about the respondents' themselves: gender, age, university name, mode of study, and degree of study. Due to the limitations resulting from the pandemic, which prevented direct contact with the respondents, the questionnaire was made available online on the platform Survio.[2] It appears to have been a good and safe way of collecting research material. Approval was obtained from the relevant authorities to conduct research at three selected universities: Jesuit University Ignatianum in Krakow, Jan Kochanowski University in Kielce, and Kazimierz Pulawski University of Technology and Humanities in Radom. Information about the study was sent to students via a university mailing. The request to fill in the questionnaire was preceded by a letter in which the purpose and scope of the research was presented and a link to this tool was provided. Participation in the research was voluntary and anonymous. The research was conducted in May and June 2020.

Characteristics of the Study Group

In total, 314 students participated in the study. The gender distribution was unequal, with a very significant majority of women ($n = 276$), constituting 87.9% of all respondents; the 38 men in this group made up the remaining 12.1% of the respondents. Undoubtedly, this difference may have resulted in part from the fact that it is mostly women who study pedagogy.

The surveyed students ranged in age from 19 to 46 years. The most frequent age by far was 22 years, as there were 70 people at this age, accounting for 22.3% of all respondents. This was followed by 21-year-olds ($n = 60$; 19.1%), 23-year-olds ($n = 45$; 14.3%), 20-year-olds ($n = 40$; 12.7%), and 24-year-olds ($n = 29$; 9.2%). Slightly fewer people represented further age groups: 16 people (5.0%) were 25 years old, 13 students (4.1%) were

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[2] This is a software program for preparing questionnaires in an online form, available at https://www.survio.com/pl/ (retrieved May 5, 2020).

19 years old, and 12 respondents (3.8%) were 26 years old. Then there were five people (1.5%) who were 31 years old. Another four people each (1.3%) were 29 and 35 years old, while three respondents (0.9%) were 28 and 30 years old each. Only two people (0.6%) were 27 years old. Finally, one respondent (0.3%) represented each of the following ages: 32, 33, 36, 37, 41, 42, 43, and 46 years. The analysis of the data shows that the age distribution of the surveyed students is very diverse. The average age of the students was 23.05 years (standard deviation = 3.80).

The respondents represented the following universities: 160 people (50.9% of all respondents) were students of the Jesuit University Ignatianum in Krakow; 87 people (27.7%) were students of the Jan Kochanowski University in Kielce; and 67 people (21.4%) were students of the University of Technology and Humanities Kazimierz Pulawski in Radom. There were 251 full-time students in the group of respondents, which constituted 79.9% of the total number of respondents, while 63 people were taking the extramural program (20.1%). In terms of the degree of study, 137 people (43.6%) were in their first-cycle studies, 93 people (29.6%) were in long-cycle studies, and 84 students (26.8%) were pursuing second-cycle studies.

A total of 314 correctly completed questionnaires were qualified for quantitative and qualitative analysis. It should be noted that the answers varied considerably: some contained only single words, slogans, and short sentences, while others were more extensive. Therefore, it is worth emphasizing that many of the respondents posted extensive statements, which allows us to assume that the survey met with interest and to some extent responded to the important need to express their reflections – and sometimes very critical opinions – related to the issue of distance learning in a very difficult situation like the coronavirus pandemic.

In order to analyze the results, the categorization method was used. Categorization is an abstract concept, denoting a set (group, class) of elements that have certain common features and distinguishing them from other elements that do not have these traits. Therefore, a very important part of the analysis was to categorize the answers in order to get a uniform message from similar reflections, feelings, and opinions of the

respondents. Then, a critical analysis of the collected data was carried out, in terms of both quantity and quality.

Further in the article, the results of the research are presented and discussed in relation to four important aspects of distance learning – strengths, weaknesses, opportunities, and threats – as well as formulating conclusions and postulates for educational practice.

The Advantages of E-Learning in the Opinion of Students

An important and interesting issue taken up in the research was the analysis of the students' opinions regarding the advantages of e-learning. A wide variety of responses were obtained; therefore, in order to organize the data and conduct the analysis, the following categories were formed. Among the main advantages of e-learning, time-saving was mentioned, which is mainly due to the end of commuting to universities. This answer received 96 responses (30.5%). Next, 50 of the surveyed students indicated individual time management(15.9%), while study/work at home was given 44 times (14.0%). Another interesting indication was the category defined as convenience. Such answers were given by 39 respondents (12.4%), mostly one-word statements. Undoubtedly, remote learning can be convenient because it can take place anywhere and anytime and it offers a certain comfort of work, freedom, and a relaxed atmosphere. The individualization of learning was indicated by 30 people (9.5%). The same number of respondents claimed that e-learning did not have any strengths. The answer "being at home" is important in the context of the coronavirus pandemic and related restrictions; such an answer was selected by 24 people (7.6%). It can be assumed that for these respondents it is simply important to be at home and to comply with epidemiological requirements. In the same context, the answer that limiting the spread of the coronavirus is an advantage of e-learning is also interesting; such an answer was indicated by three people (0.9%). The answer that the advantage of distance learning is access to materials was given by 23 students (7.3%). In this regard, the respondents pointed specifically

to the possibility to record classes and listen to them anywhere and any-time, as well as the presentation and materials that were sent to them by the teachers. On the other hand, the next category – contact with lec-turers and the transfer of information – received 22 responses (7.0%). Twenty participants mentioned cost reduction from not having to com-mute or purchase bus tickets, or being able to stop renting an apartment. In this sense, especially in the case of students who commute to univer-sities, remote classes certainly are very advantageous. For 13 of the sur-veyed students (4.1%), the continuity of the teaching process was an advantage – the ability to proceed with their education in this difficult pandemic. The last categories mentioned by the respondents concerned the possibility of greater concentration ($n = 7$; 2.2%) and the combina-tion of study and work ($n = 5$; 1.5%).

Three students chose the following responses: a sense of security, less stress, the use of new technologies, and not needing to participate in classes. The categories of interesting activities, a new experience, and no delays received two answers each. The following responses were cho-sen only once: the safest form of teaching, very efficient organization of e-learning, respect for the teacher, documentation of the teachers' work, saving paper, and self-discipline.

To summarize the discussion and analysis regarding the strengths of e-learning, it should be stated that the students found many benefits resulting from this type of teaching.

Weaknesses of E-Learning in the Opinion of the Students

In this study, the students were also asked to answer the question, "What are the weaknesses of e-learning?" This open-ended question re-ceived a wide range of feedback. Undoubtedly, the greatest weakness of distance learning from the students' point of view was an excess of material and work to be done: this answer was chosen by 124 respon-dents (39.4%). They felt that problem was the excessive load placed on them with a large number of tasks, written papers that were insufficiently

explained, and an excessive amount of new, undiscussed materials for individual study. Technical problems were also an obstacle, as indicated by 96 respondents (30.5%). In this regard, the students mentioned issues related to computer equipment and its quality, as well as internet access, disturbances and limitations of internet connections, and the functioning of educational platforms. The limited direct interpersonal contact was noted by 60 respondents (19.1%). Certainly, the COVID-19 restrictions were and still are quite a difficult challenge for the students. It should also be noted that this situation happened very suddenly and unexpectedly. Undoubtedly, the participants belong to a generation which had never experienced any serious limitations before.

Difficult contact with lecturers was indicated by 48 people (15.2%), while 45 respondents (14.3%) stated that the quality of the classes was poor and the teaching was unreliable. On the other hand, 31 of the surveyed students (9.8%) indicated a lack of practical classes, 17 (5.4%) a lack of motivation to study, and 12 (3.8%) a heavy load of individual work. Nine people (2.8%) mentioned poor organization and a lack of training for e-learning (particularly on the part of teachers). Another group of weaknesses, related to the lack of access to materials and literature, was mentioned by eight (2.5%) of the surveyed students. At that time, libraries were closed and students could only use their own literature, if they had any, or online e-books, which certainly posed a limitation. According to the respondents, other weaknesses of e-learning were too much time spent in front of the computer, according to seven (2.2%) respondents; stress and frustration for six (1.9%) people; the low level of teaching also mentioned by six (1.9%) students; the costs, in particular for purchasing computer equipment or a high-speed internet connection, indicated by five (1.5%) respondents; and the use of multiple educational platforms, as four respondents (1.2%) complained about. Three responses each mentioned the following: exhaustion, loneliness, poorer assimilation of knowledge, and the lecturers not understanding the students' situation. The following responses were chosen by only one respondent each: virtual reality, being at home all the time, the difficulty of working at home, cheating, sharing equipment with other family members, and the lack

of an individual approach to the students. There were also some interesting comments: this style of teaching does not make sense, it is not the same as normal teaching, and the place of rest becomes a place of work and study.

To sum up, the opinions of the students show that distance learning has both specific strengths and weaknesses. Overall, the percentage of strengths was 135.9%, while for weaknesses it was 160.3%. It must therefore be stated that a larger proportion of the collected data is related to the weaknesses.

The Opportunities of E-Learning in the Opinion of the Students

Another question referred to the students' opinion on the opportunities associated with e-learning. In this case as well, the responses were very diverse, so the data were categorized. The largest percentage of respondents (9.5%; $n = 30$) answered that there are no opportunities related to e-learning. It can be assumed that it was a completely new and difficult experience for the students, and perhaps that is why it was difficult for them at that stage to indicate any specific advantages of distance learning. On the other hand, according to 25 respondents (7.9%), the continuation of education is an opportunity, as it allowed them to complete their chosen course of studies. Another 23 people (7.3%) said that the lectures can be conducted remotely. For 22 respondents (7.0%), e-learning is a good chance to acquire new IT competences; likewise, 13 respondents (4.1%) mentioned learning, developing, and using new technologies. An answer from 11 people (3.5%) was that access to this form of classes is especially an opportunity for the disabled and the sick. According to 10 people (3.1%), e-learning has great potential and is a step into the future. Nine respondents (2.8%) saw it as a chance to complete the semester and to combine studying with work. For eight of them (2.5%), it is a time-saving opportunity, while seven respondents (2.2%) found it to be a good alternative and a solution in difficult and crisis situations, such as a pandemic.

Slightly fewer students, five (1.5%), chose each of the following responses: getting better grades, self-education, and the chance of survival. Three responses (0.9%) related to learning self-discipline. Responses that received one answer each included access to education, time to build family ties, becoming a digital native, the possibility of earning money on your own online courses, and the modernization of Polish universities, which may result in some classes always being held online.

In summary, it should be noted that the surveyed students did not associate any greater opportunities with e-learning. In connection with this, it is worth considering whether the stereotype of young people described as "digital natives" is adequate and true, and what students can expect from this form of education.

Threats Resulting From E-Learning in the Opinion of the Students

An important issue taken up in the research was the analysis of the opinions of the respondents regarding the risks associated with conducting classes remotely. As with the previous questions, the answers were very diverse. The distribution of responses to the question, "What are the risks of e-learning?" was very uneven. Undoubtedly, in the opinion of the surveyed students, the greatest threat from remote teaching is the poor quality of education. This category received 80 responses, which was 25.5% of the total. Therefore, it can be assumed that the quality of education is an important issue for students, as it will undoubtedly impact their further professional work.

The second category of threats was health risks, which were indicated by 49 people (15.6%). In this group the following were mentioned in particular: deterioration of sight and hearing, back pain, overweight, internet addiction, exhaustion, stress, frustration, depression, neurosis, and mental imbalance. In this regard, it should be noted that people aged 18–24 (many of them students) showed a significantly higher level of depression and generalized anxiety symptoms during the pandemic than

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other age groups and significantly more often than all other age groups manifested suicidal or self-aggressive thoughts (Gambin et al., 2020).

The next category of threats, which received 31 responses (9.8%), was the limitation of interpersonal relations. This is a valuable and interesting statement, as it is clearly possible to prove the very important role of interpersonal relations in the functioning of a person. The results indicate that interpersonal contact and the presence of another person are important for students, as well as for the educational process. Slightly fewer respondents ($n = 24$; 7.6%) indicated that a significant threat is cheating or dishonesty on the part of students in their written assignments and exams. It is encouraging that students are aware of such inappropriate behavior. The issue of social isolation was indicated by 21 respondents (6.6%), while 19 people (6.0%) mentioned the risk of failing exams. Another category, the lack of practical competences, was noted by 16 respondents (5.0%). In total, 15 students (4.7%) stated that there are no threats from distance learning. Another 12 people (3.8%) noted the threat of low motivation or a lack thereof. Another threat, mentioned by nine respondents (2.8%), was accounts being hacked and data theft. These respondents were concerned about the interception of information by hackers, the processing of their personal data, or online harassment. Laziness was considered a threat by eight respondents (2.5%), and the lack of verification of knowledge and learning outcomes was a threat according to seven people (2.2%). Five respondents (1.5%) mentioned a lack of preparation for professional work and the student's lack of involvement in the teaching process. Four students (1.2%) chose such responses as convenience, unfair assessment, and digital exclusion. Three respondents (0.9%) mentioned the lack of practical classes and plagiarism.

There were some responses that were chosen by a single student each: no friendships, instrumental treatment of other people, no group work, less responsibility, resignation from university, the university becoming a place to sell degrees and not for acquiring knowledge. Other threats that were mentioned were that books would decrease in value and be read less, there would be less contact with literature, problems with handwriting, weaker skills of self-presentation, a dependence on

equipment and systems during exams, and the huge amounts of electricity used for computers' operation.

To summarize, it should be noted that there are many threats that result from the use of e-learning, so it is worth considering taking appropriate measures to reduce or eliminate them.

Conclusions and Postulates for Educational Practice

The coronavirus pandemic caused a serious socioeconomic crisis, which initiated an innovative approach to solving many problems, including those related to forced isolation and a lack of communication from the outside world. This situation was and still is a serious challenge for education and interpersonal contact. Therefore, due to the need to quickly introduce distance learning, participation and organization of academic classes in this system was not properly prepared in advance, undoubtedly making it a difficult and stressful situation.

The experience of the students who take part in remote teaching indicates that there are still many activities that should be introduced into the practice of everyday academic education. We will certainly be able to make constructive use of good solutions and the strengths of e-learning and to eliminate any problems and threats. Perhaps a creative solution will be to introduce only those elements of distance learning which can contribute to a better acquisition of IT and digital competences and can help students develop activity, self-discipline, and individual learning. The results of our empirical research undoubtedly recommend a certain caution about extending distance learning in academic education.

One year into the COVID-19 pandemic, close to half the world's students are still affected by partial or full school closures, and over 100 million additional children will fall below the minimum proficiency level in reading as a result of the health crisis. Prioritizing education recovery is crucial to avoid a generational catastrophe (UNESCO, 2020).

The current, undoubtedly dramatic, pandemic has revealed an interesting area for in-depth research on preparing and coping with remote

education. Therefore, it is highly recommended to undertake further and more detailed longitudinal research on the strengths, weaknesses, opportunities, and threats of distance learning.

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