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Higher education during the COVID-19 pandemic in the opinions of students in Poland

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Higher education during the COVID-19 pandemic in the opinions of students in Poland

Emilia Mazurek*

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Abstract: The COVID-19 pandemic has completely changed the social life as we have known so far. Lockdown-type control measures resulted in numerous limitations in the operation of public and non-public institutions as well as limitations in social, family and cultural life. The measures taken due to COVID-19 have had an immediate effect on higher education in Poland. The aim of the study was to find out what experiences were gained by students participating in distance education in Poland during the COVID-19 pandemic. The long-term study was conducted in two stages. The study included 290 participants who were studying in various types of universities in Poland. As a result of the research it was found that from the perspective of students, the biggest advantage of online education were logistical and organisational issues. The greatest limitations of online education were: absence of personal interaction with teachers and other students, difficulty in organising online classes based on students' activity and learning-by-doing, lack of standardisation of platforms used for online education at the university, too much workload for students requiring independent learning, and risk of health problems as a consequence of too long work at the computer. In the second semester of distance education during the pandemic, there was an increase in student satisfaction with online education, mainly due to the more frequent conducting of synchronously classes. The crisis caused by the COVID-19 pandemic situation initiated the educational revolution in Poland. It appears that online education will remain an integral part of Polish higher education system, but it will not replace stationary education after the pandemic.

Keywords: COVID-19 pandemic; higher education; distance education; e-learning; virtual classes.

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I. Introduction

The COVID-19 pandemic, announced by the World Health Organization (WHO) on March 11, 2020, has completely changed the social life as we have known so far. The global health emergency led to an education crisis. Most governments around the world have temporarily closed schools, universities and other educational institutions in an attempt to contain the spread of the pandemic. According to the United Nations Educational, Scientific and Cultural Organization (UNESCO), on March 11, 2020, schools and higher education institutions were closed in 27 countries, affecting 380,218,964 learners. For comparison, a month later schools and higher education institutions were closed in 194 countries, affecting 1,578,336,788 learners.¹

The measures taken due to COVID-19 have had an immediate effect on higher education institutions all over the world. “They have impacted, often dramatically, the conditions under which higher education all of a sudden had to perform research and what is now often referred to as ‘emergency online education’; students need assistance; staff face unprecedented challenges, including job insecurity; university leaders had to reinvent how to run their campus operations”.² The changes that have occurred in higher education as a result of the pandemic can be described as rapid, total and unpredictable. The problems faced by universities concerned the organizational, research and didactic spheres.³ Learning that till now relied on face-to-face educational environments has been replaced by “an environment driven by computers and digital technologies”.⁴

At the beginning of the lockdown, it was difficult to predict how long virtual education would be conducted and whether, after a possible return to

¹ “Education: From Disruption to Recovery. COVID-19 Impact on Education,” UNESCO, accessed August 26, 2020, <https://en.unesco.org/COVID19/educationresponse>.

² Giorgio Marinoni, Hilligje van’t Land, and Trine Jensen, *The Impact of COVID-19 on Higher Education around The World. IAU Global Survey Report* (Paris: International Association of Universities, 2020), 6.

³ Wahab Ali, “Online and Remote Learning in Higher Education Institutes: A Necessity in light of COVID-19 Pandemic,” *Higher Education Studies* 10, no 3 (2020): 16–25, <https://doi.org/10.5539/hes.v10n3p16>. Aleksander Aristovnik, Damijana Keržič, Dejan Ravšelj, Nina Tomažević, and Lan Umek, “Impacts of the COVID-19 Pandemic on Life of Higher Education Students: A Global Perspective,” *Sustainability* 12, no. 20 (2020): 8438, <https://doi.org/10.3390/su12208438>. Aleksander Kobylarek, “Edukacja w czasach zarazy. Przypadek uniwersytetu,” [Education in times of the plague. The case of the university] *Ogrody Nauk i Sztuk* 10 (2020): 7-13.

⁴ Ali Khaled Bawaneh, “The Satisfaction Level of Undergraduate Science Students Towards Using E-Learning and Virtual Classes in Exceptional Condition COVID-19 Crisis,” *Turkish Online Journal of Distance Education* 22, no. 1 (2021): 52.

universities, it would be necessary to close them again or not. All actors involved in higher education (e.g. policy makers, teachers, students, administrative and support staff) were met with the necessity to face the immediate changes that were necessary to implement. Teaching and being accountable in ‘universities without bodies’ has become a challenge for academic teachers. On the other hand, learning in a new reality has become a challenge for students. Not all of them felt competent to participate in distance academic education, but they had to adapt to the new, difficult reality. An additional difficulty was the negative emotions experienced in connection with the epidemic situation in the world,⁵ a real threat to one’s own health and life, as well as the need to maintain social distance and limit interpersonal contacts.

The first case of a laboratory confirmed SARS-CoV-2 infection in Poland was that of the patient hospitalised in Zielona Góra, with confirmation announced officially on March 4, 2020. Lockdown-type control measures started from the beginning of March, 2020 in Poland. Rectors of few universities decided to cancel full-time education and suspend the possibility of using the university’s teaching infrastructure from March 10, 2020, until further notice. The Polish government authorities announced the closure of educational establishments (including universities) from March 12, 2020 for a period of two weeks. This period was systematically extended. An official epidemic was declared in Poland on March 20, 2020. It resulted in numerous limitations in the operation of public and non-public institutions as well as limitations in social, family and cultural life. In the summer semester 2019/2020 the higher education was conducted as distance education. In the winter semester 2020/2021, classes at universities in Poland were planned to be carried out both remotely and stationary, depending on the form of classes. Due to the increase in the number of COVID-19 cases, virtual education was introduced as the leading one.

Hence, this study came to determine what experiences were gained by students participating in distance education in Poland during the COVID-19 pandemic. The study was also an attempt to recognize the students opinions about higher education in Poland during the pandemic. Most universities in Poland depend on the conventional teaching and learning methodologies, although some of them offer courses as e-learning or virtual classes. For this reason, many students had the opportunity to attend in distance education the first time.

⁵ Jeff Clyde Corpuz, “COVID-19 and Mental Health,” *Journal of Psychosocial Nursing and Mental Health Services* 58, no. 10 (2020): 4, <https://doi.org/10.3928/02793695-20200916-01>.

1.1. Literature review

Distance education is a “form of education in which the main elements include physical separation of teachers and students during instruction and the use of various technologies to facilitate student-teacher and student-student communication”.⁶ Some characteristics distinguish the phenomenon of distance education. Firstly, distance learning and distance teaching dually make up distance education. It is carried out through institutions. Secondly, physical separation is appropriate to distance education. Also, time may separate learners and their teachers. Third, learners and teachers communicate with each other most often using digital technologies, but also traditional forms of communication. Education may be synchronous or asynchronous. Finally, distance education establishes a learning group which has got common goals, values, principles of work, etc.

Distance education includes correspondence education, open learning (learning through the open university), e-learning and virtual classes. Nowadays the most common are e-learning and virtual classes. Both of them are Internet-based education.

Typically, e-learning is based on enabling students to access their learning materials at any place and time. This modern learning method is also based on virtual classes that facilitate the process of communication between persons engaged in education. Algahtani described three models of using e-learning: adjunct e-learning, blended e-learning and online e-learning.⁷ The first one is the situation which e-learning is employed as an assistant in the traditional classroom. Blended e-learning combines traditional learning method with e-learning. The third one is the online e-learning which assumes that teaching and learning processes are in virtual environment.

Virtual classes as the separate form of distance education provides a highly interactive online classroom environment.⁸ It allows learners and teachers to conduct discussions, engage with meetings, work in groups, upload and receive files, etc. Virtual classes are similar to traditional education, but it is based on the use of IT applications enabling videoconferences. Physical presence in the classroom is not necessary.

⁶ Gary Berg and Michael Simonson, “Distance learning. Encyclopedia Britannica,” accessed October 5, 2021, <https://www.britannica.com/topic/distance-learning>.

⁷ Abdullah Faleh Algahtani, *Evaluating the Effectiveness of the E-learning Experience in Some Universities in Saudi Arabia from Male Students’ Perceptions* (Durham: Durham University, 2011), 66.

⁸ Ali Khaled Bawaneh, “The Satisfaction Level of Undergraduate Science Students Towards Using E-Learning and Virtual Classes in Exceptional Condition COVID-19 Crisis,” *Turkish Online Journal of Distance Education* 22, no. 1 (2021): 54.

Increasingly universities provide distance learning opportunities. “Learning that initially relied on face-to-face educational environments is now being carried out in an environment driven by computers and digital technologies”.⁹ E-learning and virtual classes in higher education offer completely new opportunities for learners and teachers. According to many researchers,¹⁰ the main benefits of these forms of education are: flexibility, time and space dependency, effective time management, adaptation to the individual differences of students, communing with cultural diversity, combination of structure and freedom, passing exams in comfortable and safe conditions, immediate feedback on tests, access to experts from around the world, attractiveness, reducing stress, cost effectiveness, inclusion of learners in existing global social relationships, better preparation to problem solving in the field of professional activities. At the same time, distance education is connected with numerous limitations. Disadvantages of distance education listed in various studies¹¹ include:

⁹ Bawaneh, “The Satisfaction Level,” 52.

¹⁰ Bryn Holmes and John Gardner, *E-Learning: Concepts and Practice* (London: SAGE Publications Ltd., 2006), 29-31. Abdullah Faleh Algahtani, *Evaluating the Effectiveness of the E-learning Experience in Some Universities in Saudi Arabia from Male Students’ Perceptions* (Durham: Durham University, 2011), 57-60. Valentina Arkorful and Nelly Abaidoo, “The role of e-learning, advantages and disadvantages of its adoption in higher education,” *International Journal of Instructional Technology and Distance Learning* 12, no. 1 (2015): 34-35. Sawsen Lakhali, Dianne Bateman and Janie Bédard, “Blended synchronous delivery mode in graduate programs: A literature review and its implementation in the master teacher program,” *Collected Essays on Learning and Teaching*, X (2017): 49–51. <https://doi.org/10.22329/celt.v10i0.4747>. Lazar Stošić, Sofiya Dermendzhieva and Łukasz Tomczyk, “Information and communication technologies as a source of education,” *World Journal on Educational Technology: Current Issues* 12, no. 2 (2020): 133-134. Ali Khaled Bawaneh, “The Satisfaction Level of Undergraduate Science Students Towards Using E-Learning and Virtual Classes in Exceptional Condition COVID-19 Crisis,” *Turkish Online Journal of Distance Education* 22, no. 1 (2021): 52-65. Munevver Esgice Gunduz, Engin Kursun, Selcuk Karaman and Turgay Demirel, “Problems, Expectations, and Amendments Regarding Distance Education Legislation in Higher Education Institutions in Turkey,” *Turkish Online Journal of Distance Education* 21, no. 4 (2020): 186-190. <https://doi.org/10.17718/tojde.803402>.

¹¹ John Cowan, “The Advantages and Disadvantages of Distance Education,” in *Distance Education for Language Teachers: A UK Perspective*, ed. Ron Howard, Ian McGrath, (Cleveland – Philadelphia – Adelaide: Multilingual Matters Ltd., 1995), 17-18. Valentina Arkorful and Nelly Abaidoo, “The role of e-learning, advantages and disadvantages of its adoption in higher education,” *International Journal of Instructional Technology and Distance Learning* 12, no. 1 (2015): 34-35. Sevim Gunes, “What are the perceptions of the students about asynchronous distance learning and blended learning?” *World Journal on Educational Technology: Current Issues* 11, no. 4 (2019): 233. Jieun Lee and Gihan Osman, “Students’ Experiences and Perceptions of Online Collaborative Learning in Higher

absence of personal interactions and relations (between students and teachers, but also between colleague learners), isolation, problems in communication (especially in asynchronous distance learning), less effectiveness than traditional methods of teaching/learning in selected areas, difficulty in developing practical skills and social competences (especially in the fields such as medical science and engineering), impossibility to conduct selected educational activities (e.g. laboratory exercises), greater risk of cheating and plagiarism.

II. Purpose of the study

The aim of the research was to find out what experiences were gained by students participating in distance education in Poland during the COVID-19 pandemic. The study was an attempt to recognize the students opinions about higher education in Poland during the pandemic. In general, the study aimed to answer the following questions:

1. What educational experiences did students gain in Poland through participation in online education during the COVID-19 pandemic?
2. What are the benefits and limitations of online education in the opinions of students based on their experience gained while studying under lockdown?

III. Methodology

III.1. Method and procedure

The long-term study was conducted in two stages: (1) during the first wave of COVID-19 pandemic, in June 2020 (after the students had completed the second semester of 2019/2020), (2) during the second wave of COVID-19 pandemic, in February 2021 (after the students had completed the first semester of 2020/2021).

Data was collected using two questionnaires developed by the researcher. The form used in the first stage of the study consists 18 questions, out of which 16 were closed and 2 open-ended. The survey instrument included questions relating to the following categories: previous (pre-pandemic) experiences in participation in distance education, forms of

Education of Korea and the UAE,” *Turkish Online Journal of Distance Education* 22, no. 1 (2020): 3-4.

conducting online classes at university during the pandemic, regularity of online classes, difficulties in online education, benefits and limitations of traditional and distance education, support received during distance education, preparation of academic teachers to conduct online education (including in real time education using appropriate information technologies). The form used in the second stage of the study was enriched with two additional questions. The aim of these questions was to determine the changes that have occurred in distance education at universities during the second wave of COVID-19 in Poland compared to the previous academic year.

The initial version of the research instrument was verified as part of the previously conducted pilot studies in a group of 40 students and PhD students. Taking into account the comments of the respondents, the content was corrected and the variants of the answers were supplemented.

To achieve the objectives of the study, the researcher followed the descriptive-analytical method.

III.2. Participants

Students and PhD students were invited to participate in the research via social media. The data was collected using online questionnaires. Filling in the form took several minutes on average.

The selection of the research group was random. The study included 290 participants (143 participants in the first stage of the study and 147 in the second one) of 20 to 48 years of age. The average age of the participant was 26. The majority of the research group were women (69.3%). Almost all participants declared Polish nationality (98.4%). The others declared Ukrainian, Nigerian and Kyrgyz nationalities. Most of the participants came from big cities (59.3%). Furthermore, 19.3% came from countrysides, 13.8% from medium-sized cities, and 7.6% from small towns. The most common type of university where participants studied was technical university (45.9%). The other types of universities were: university (29.7%), medical university (8.6%), nature of university (4.1%), academy of physical education (2.4%), other (9.3%). The respondents most often declared that they study at PhD studies (35.9%). The second most represented group were people studying at the 2nd level of the studies (28.9%). The other participants declared that they study at the 1st level of the studies (23.1%) and master studies (12.1%). The respondents most often declared full-time of studies (81.7%). The detailed information about the participants is shown in the Table 1.

Table 1
Study sample of students

		The first stage of the study (N=143)	The second stage of the study (N=147)	Total (N=290)
Gender	Male	N = 44 (30,8%)	N = 45 (30,6%)	N = 89 (30,7%)
	Female	N = 99 (69,2%)	N = 102 (69,4%)	N = 201 (69,3%)
Nationality	Polish	N = 139 (97,2%)	N = 146 (99,3%)	N = 285 (98,4%)
	Ukrainian	N = 2 (1,4%)	N = 1 (0,7%)	N = 3 (1%)
	Nigerian	N = 1 (0,7%)	N = 0	N = 1 (0,3%)
	Kyrgyz	N = 1 (0,7%)	N = 0	N = 1 (0,3%)
Place of residence	big city	N = 80 (55,9%)	N = 92 (62,6%)	N = 172 (59,3%)
	medium-size town	N = 25 (17,3%)	N = 15 (10,2%)	N = 40 (13,8%)
	small town	N = 13 (9,3%)	N = 9 (6,1%)	N = 22 (7,6%)
	countryside	N = 25 (17,5%)	N = 31 (21,1%)	N = 56 (19,3%)
Type of university	university	N = 48 (33,6%)	N = 38 (25,9%)	N = 86 (29,7%)
	technical university	N = 66 (46,1%)	N = 67 (45,6%)	N = 133 (45,9%)
	medical university	N = 6 (4,2%)	N = 19 (12,9%)	N = 25 (8,6%)
	nature university	N = 6 (4,2%)	N = 6 (4,1%)	N = 12 (4,1%)
	academy of physical education	N = 5 (3,5%)	N = 2 (1,4%)	N = 7 (2,4%)
	of physical education			
	others	N = 12 (8,4%)	N = 15 (%)	N = 27 (9,3%)
Level of studies	the 1st level	N = 39 (27,6%)	N = 28 (19%)	N = 67 (23,1%)
	the 2nd level	N = 53 (37%)	N = 31 (21,1%)	N = 84 (28,9%)
	master studies	N = 15 (10,2%)	N = 20 (13,6%)	N = 35 (12,1%)
	PhD studies	N = 36 (25,2%)	N = 68 (46,3%)	N = 104 (35,9%)
Form of studies	full-time	N = 114 (79,7%)	N = 123 (83,7%)	N = 237 (81,7%)
	part-time	N = 29 (20,3%)	N = 24 (16,3%)	N = 53 (18,3%)

III.3. Ethical consideration

The researcher made ethical considerations in the conduct of this study. In particular, before starting the research, their potential participants were clearly informed about the objectives and the course of the research and the

planned publication of the results. They were also informed about the retention, sharing and any possible secondary uses of the research data. Additionally, researcher provided their own contact details to participants. At the start of the study the researcher obtained the consent to be involved in the study. The participants had the freedom to withdraw their consent for any reason and at any time they feel uncomfortable with their participation in the survey. Participation in the research was voluntary and anonymous, as stated in the instructions for the questionnaire.

IV. Findings

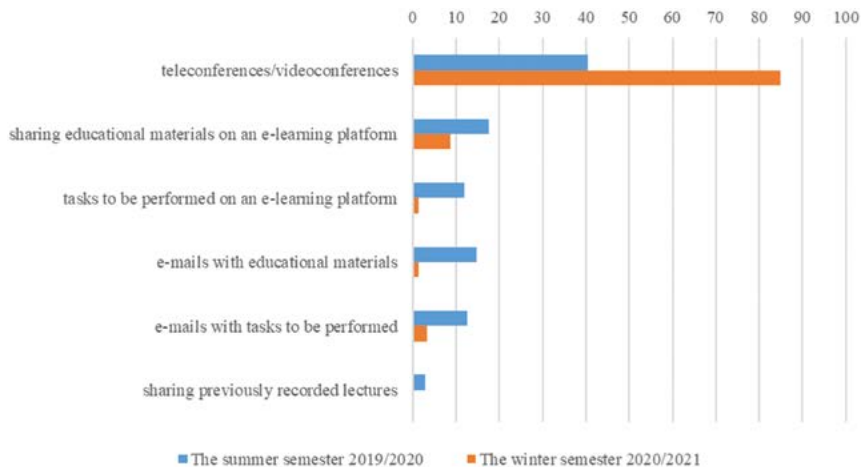
IV.1. Experience with online education during the COVID-19 pandemic

More than half (70.6%) of the respondents had not participated (i.e. before the COVID-19 pandemic) in distance education before. Thus, the pandemic situation in the world became a pretext to gain new educational experiences.

Most of the respondents stated that all classes included in the schedule were held. However, in the first semester of distance education due to the COVID-19 pandemic more classes were not delivered compared to the second semester. This problem was indicated by 31% of students participating in the first phase of the study, and 15% in the second phase. The following reasons for the lack of organization of classes were listed: lack of opportunities due to the form of classes (i.e. laboratory, sports classes, workshops, practice), lack of contact of the teacher, lack of competence of the teacher in conducting virtual classes, lack of willingness of the teacher, technical problems, teacher's illness. Some students were unable to identify the cause. It is worth mentioning that insufficient preparation of academic teachers to conduct on-line education was not indicated as a cause of cancellation of classes in the second stage of the study. Teachers were better prepared to conduct online classes in the second semester of distance education during the pandemic.

The research shows that academic teachers chose various forms of online classes. Additionally, there were visible differences in the ways of conducting online education between two semesters of higher education during the COVID-19 pandemic. The students were asked to indicate one form of conducting online classes that their teachers were choosing the most frequently during two waves of the COVID-19 pandemic. Their answers are presented in the Figure 1. The results confirm that synchronous distance education (i.e. teleconferences, videoconferences) was more common in the

second semester. It can be assumed that then academic teachers were properly trained in the use of information and communication technologies (ICT) in education. Moreover, some universities introduced an obligation of synchronous education. The choice of the method of conducting classes most often belonged to the teacher, and it was sporadically consulted with the students.



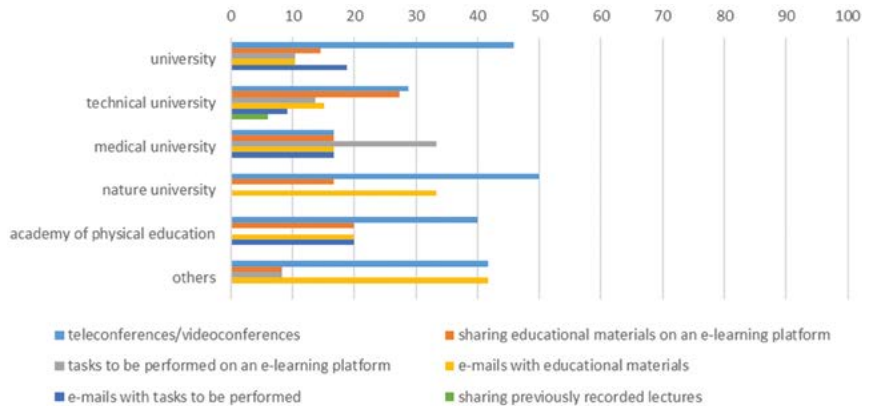
* Note: Values given in %.

Figure 1

Forms of online education during the COVID-19 pandemic

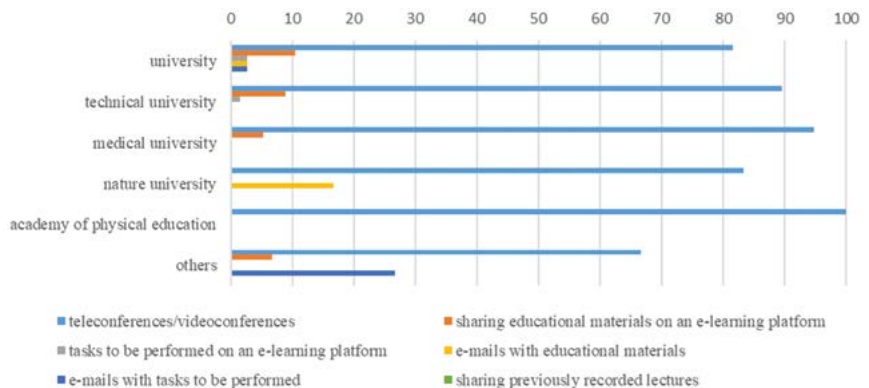
The Figures 2 and 3 present students' answers of different types of universities to the question about the most frequently chosen forms of distance education in two waves of the pandemic at their universities. Due to the large disproportions in the number of groups representing various types of university (see Table 1), the results show the percentage share of a specific form of distance education in the total number of responses obtained from students representing one type of university. Additionally, by comparing the data presented in the Figures 2 and 3, it is possible to monitor changes that have occurred in teacher choices of various types of universities during the global health crisis. Regardless of the type of university, there has been a large increase in videoconferences/teleconferences in the second wave of the COVID-19 pandemic. The great variety in forms of distance education has been replaced by real-time education. Videoconferences/teleconferences

were the leading form of conducting classes, the others became accompanying or they were not used.



* Note: Values given in %.

Figure 2
Forms of online education in various types of universities in the summer semester 2019/2020

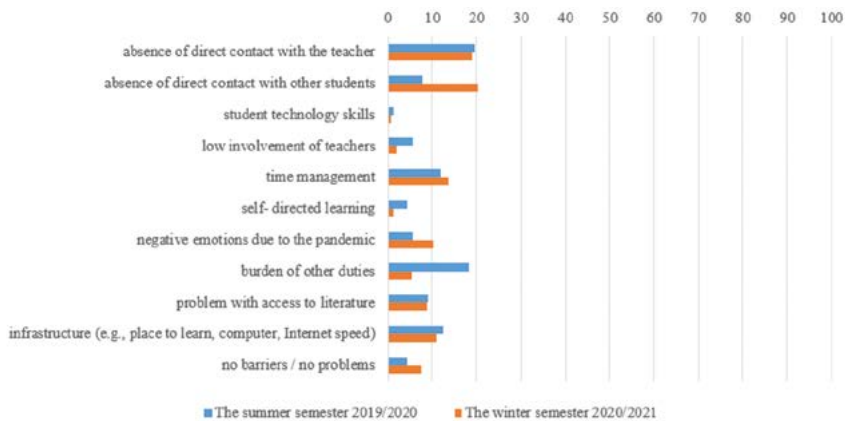


* Note: Values given in %.

Figure 3
Forms of online education in various types of universities in the winter semester 2020/2021

IV.2. Barriers to online learning during the COVID-19 pandemic

Students indicated major barriers to online learning during the COVID-19 pandemic. The study found that there were significant differences in the respondents' answers compared to the semester that was assessed. Firstly, in the second semester of distance education during the pandemic, more students noticed the lack of face-to-face contact with other students as a barrier to learning. It is difficult to replace direct contact with the use of information and communication technologies. Secondly, the number of students experiencing negative emotions due to the pandemic has increased. Lengthening physical separation and limited communication in many social spheres (including distance education) deepened a mental crisis of students. Thirdly, more students got used to online education and were better at combining learning with other duties. The number of students experiencing overburdening has decreased. The analysis of collected data made it possible to distinguish five categories of barriers to online learning during the COVID-19 pandemic at universities in Poland: organizational and institutional, technical, social, emotional, competence.¹² The detailed barriers to online learning during the COVID-19 pandemic are shown in the Figure 4.



* Note: Values given in %.

Figure 4

Barriers to online learning during the COVID-19 pandemic

¹² Emilia Mazurek, "Barriers to Online Learning during the COVID-19 Pandemic at Universities in Poland," *Proceedings of the 37th International Business Information Management Association (IBIMA)*, (Cordoba: IBIMA, 2021), 8245-8247.

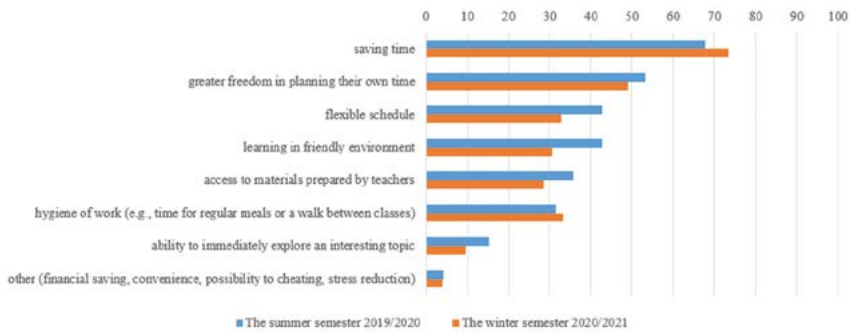
Students participating in the research received support of other people in learning. The most of them (47.5%) could count on help of their colleagues who study with them. Students also received support from their family members (18.5%), other students from the university where they study (13%), academic teachers (12%), and from other people (9%). Teachers most often supported students through individual consultations using e-mail correspondence or teleconferences/videoconferences. Occasionally, they provided additional materials.

IV.3. Advantages and disadvantages of online education

The educational experience gained during the COVID-19 pandemic became the basis for the evaluation of distance education. Students noticed many advantages and disadvantages of online education. They are presented in the Figures 5 and 6.

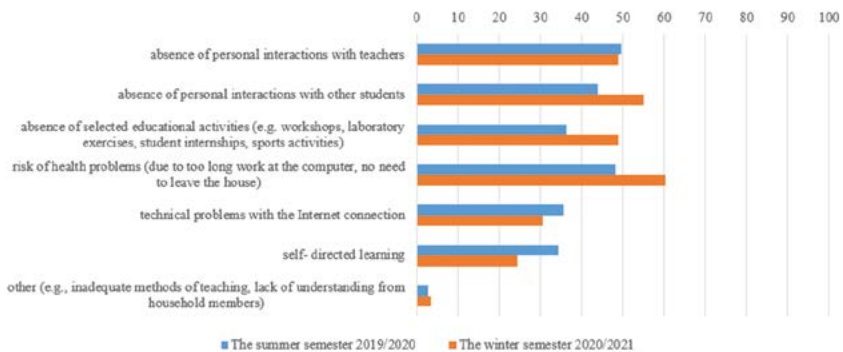
The students presented their own expectations and proposals for changes in online academic education. In the first phase of research students expected more videoconferences, which on the one hand provide direct contact with the teacher, learning from an expert, and on the other hand enable discussions, and thus help to improve social competences. Students also expected better organization of synchronous classes and adaptation of the sent didactic materials for mediated education (e.g. more explanations and comments, visual attractiveness). Some respondents directly suggested the necessity to train academic teachers in the field of online education whereas they emphasized the need to train students in this field much less often. In the second stage of research, the students appreciated that most of the classes were conducted synchronously. Further expectations of students concern teachers' attitudes towards teaching in a crisis situation, although at the same time they perceive the difficult situation of academic teachers resulting from the need to immediately change the current teaching. They expect greater involvement from the lecturers, maintaining systematic online contact, providing feedback in the case of assignment evaluation, precise definition of requirements and "reasonable" planning of the learning process.

Despite the advantages of online education, students are not convinced to replace traditional education with online education. Over half of the respondents (58%) stated that they prefer blended-learning. In turn, 33% of respondents prefer stationary education, and only 9% online education.



* Note: Values given in %. Respondents could choose more than one answer.

Figure 5
Advantages of online education



* Note: Values given in %. Respondents could choose more than one answer.

Figure 6
Disadvantages of online education

V. Discussion

The pandemic COVID-19 has caused a colossal impact on the higher education system in Poland. The epidemic situation forced academic teachers to quickly undertake actions aimed at adapting the education conducted so far to the new conditions. Significant difficulties were the short time to prepare for conducting classes in a completely new form, the lack or little

experience in conducting online education, the lack or insufficient knowledge of information and communication technologies for online education and poor preparation to use them. Deficiencies in this regard, unfortunately, translated into the quality of academic education during the pandemic. However, in the second semester of distance education, there was an increase in student satisfaction with online education, mainly due to the more frequent conducting of synchronously classes. The research shows that from the perspective of students, the greatest limitations of online education during the pandemic were: absence of personal interaction with teachers and other students, difficulty in organizing online classes based on students' activity and learning-by-doing, lack of standardization of platforms used for online education at a university, too much workload for students requiring independent learning, and risk of health problems as a consequence of too long work at the computer. The biggest advantage of online education, on the other hand, are logistical and organizational issues, which allow, above all, to better plan one's own time.¹³

It can be concluded that online education will become an inseparable part of academic education both during and after the COVID-19 pandemic. "The higher education institutions and universities need to plan the post-pandemic education and research strategies to ensure student learning outcomes and standards of educational quality".¹⁴ The urgent task is both the selection of optimal technological solutions supporting distance education in universities and the appropriate preparation of academic teachers to conduct online classes.¹⁵ This preparation should not only consist in acquiring the skills to use applications and platforms, but above all in making people aware of the basic limitations resulting from mediated communication between the teacher and students. One of the basic human needs is the need for closeness and building

¹³ Valentina Arkorful and Nelly Abaidoo, "The role of e-learning, advantages and disadvantages of its adoption in higher education," *International Journal of Instructional Technology and Distance Learning* 12, no. 1 (2015): 34-35. Sevim Gunes, "What are the perceptions of the students about asynchronous distance learning and blended learning?," *World Journal on Educational Technology: Current Issues* 11, no. 4 (2019): 233. Jieun Lee and Gihan Osman, "Students' Experiences and Perceptions of Online Collaborative Learning in Higher Education of Korea and the UAE," *Turkish Online Journal of Distance Education* 22, no. 1 (2020): 10-13.

¹⁴ Shazia Rashid and Sinishtha Singh Yadav, "Impact of COVID-19 Pandemic on Higher Education and Research," *Indian Journal of Human Development* 14, no 2 (2020): 340, <https://doi.org/10.1177/0973703020946700>.

¹⁵ Pushkar Dubey and Deepak Pandey, "Distance learning in higher education during pandemic: challenges and opportunities," *International Journal of Indian Psychology* 8, no. 2 (2020): 45. <https://doi.org/10.25215/0802.204>.

interpersonal relationships with other people.¹⁶ In a pandemic adversely affecting the psychological well-being of a person, this need increases. Therefore, in the conditions of online education, it is necessary to pay special attention to the quality of relations and communication,¹⁷ as well as the attention of academic teachers, expressed in recognizing the needs (including educational) of students and the difficulties they experience. Based on the research conducted, it can be concluded that this area was not fully noticed and properly taken care of in distance education initiated by the first wave of the COVID-19 pandemic. Hence the feeling of frustration and dissatisfaction of many students when listing the mistakes made by their teachers.¹⁸ Meeting the basic needs of students (including safety, respect and recognition, access to information) is conducive to learning and achieving learning outcomes. Building relationships based on trust, respect, empathic care and supporting students in learning in new circumstances is the basis for their better adaptation to distance education and for acquiring resistance to harmful factors resulting from both the epidemic situation and the dramatic change in their education. Through open communication, it is also possible to develop a certain consensus between teachers' expectations of students' learning independence and students' expectations of being supported by teachers. An important task of university managers is also to develop a strategy and implement actions aimed at emotional support of academic staff and students in a situation of crisis aggravating mental problems and disorders. Therefore, building a relationship between a student and an academic teacher and supporting students in a difficult situation is a prerequisite for ensuring education that is effective and of high quality. Modern technologies play a supporting role in this context,¹⁹ their use alone does not ensure the achievement of the intended goal.

¹⁶ Jacek Pyżalski, "Co jest obecnie ważne, a co mniej w działaniach szkół i nauczycieli?," [What is currently important, and what is less, in the activities of schools and teachers?] in *Edukacja w czasach pandemii wirusa COVID-19. Z dystansem o tym, co robimy obecnie jako nauczyciele* [Education during the COVID-19 pandemic. Keep in mind what we are doing today as teachers] ed. Jacek Pyżalski (Warszawa: EduAkcja, 2020), 26.

¹⁷ Marek Kaczmarzyk, "Neurobiologiczny kontekst edukacji zdalnej," [Neurobiological context of online education] in *Edukacja w czasach pandemii wirusa COVID-19. Z dystansem o tym, co robimy obecnie jako nauczyciele*, [Education during the COVID-19 pandemic. Keep in mind what we are doing today as teachers] ed. Jacek Pyżalski (Warszawa: EduAkcja 2020), 20-24.

¹⁸ Aleksander Aristovnik, Damijana Keržič, Dejan Ravšelj, Nina Tomažević, and Lan Umek. "Impacts of the COVID-19 Pandemic on Life of Higher Education Students: A Global Perspective," *Sustainability* 12, no 20 (2020): 8438. <https://doi.org/10.3390/su12208438>.

¹⁹ Jun Sun, "Multi-dimensional alignment between online instruction and course technology: A learner-centered perspective," *Computers & Education*, 101 (2016): 102–114. <https://doi.org/10.1016/j.compedu.2016.06.003>.

Online academic education has also made people aware of the importance of applying the principle of individualization in education. Taking into account the individual resources and limitations of students (including students with special educational needs) requires identifying them and then adapting the forms of support to them. During distance education, diagnosis in this area is difficult due to mediated communication. It is the teacher's responsibility to take the initiative and offer her/his help. Online education needs a learner-centered perspective.

VI. Conclusion

The COVID-19 pandemic has brought about profound changes in society. The global health emergency led to an education crisis. All schools from primary to academic level faced an unprecedented challenge: the widespread transition from in-school to online education. This challenge appeared suddenly and required immediate action, with the simultaneous lack of preparation of teachers and students for distance learning, insufficient infrastructure of higher education institutions, pessimistic moods caused by the feeling of threat to health and life.

The crisis caused by the pandemic situation in many universities initiated, and accelerated in others, a new way of thinking about education and the implementation of new technological solutions supporting education.²⁰ In conditions of relative calm, the changes introduced during a pandemic would probably take many years. Meanwhile, we participated in the educational revolution in which all educational entities gained new experiences. Certainly, some universities have coped with this challenge better than others. It was difficult for everyone to avoid mistakes and omissions, but on the basis of their analysis, it is possible to develop new solutions and recommendations for use in education in subsequent (possible) waves of a pandemic and in a post-pandemic situation. The obtained research results indicate the essence of the relational and communicative dimensions in distance education. Hence, there is an urgent need to introduce systemic measures in higher education institutions aimed at better preparation of academic teachers for recognizing the students' educational needs and building relationships with students in terms of remote cooperation. It would be worth to implement

²⁰ Wahab Ali, "Online and Remote Learning in Higher Education Institutes: A Necessity in light of COVID-19 Pandemic," *Higher Education Studies* 10, no. 3 (2020): 16–25, <https://doi.org/10.5539/hes.v10n3p16>. Pushkar Dubey and Deepak Pandey, "Distance learning in higher education during pandemic: challenges and opportunities," *International Journal of Indian Psychology* 8, no. 2 (2020): 44. <https://doi.org/10.25215/0802.204>.

following solutions in higher education institutions: teacher training, academic tutoring, peer-group consultation, peer class observation, expert class observation, university guidance, digitalization programs, etc.

It should be assumed that online education will remain an integral part of many higher education systems. The introduction of distance education in higher education has confirmed that some forms of teaching can be conducted online, while others require a residential mode. Moreover, the personal meeting of the student with the teacher and direct communication are perceived as one of the greatest advantages of traditional education. Hence, it can be concluded that online education will not replace residential education after the pandemic. Combining both models and implementing hybrid education seems more realistic.

VII. Limitations of study and suggestions of future research

The difficulty in finding an equivalent number of participants caused a limitation of the study. The results of this study are a subject to the limitation of generalisation. The results of this study do not reflect the entire population of students in Poland. For this reason, the presented study is not national in scope (in Poland). Although participants of the study were students and PhD students of various universities in Poland, they did not represent all universities in this country. Therefore, it cannot be concluded that the obtained results relate to higher education throughout Poland. They only illustrate a certain range of experiences gained by some students in Poland during the COVID-19 pandemic.

It is necessary to conduct further studies concerning the experiences gained by students participating in online education during the global health crisis. This knowledge may be useful to develop new solutions and recommendations for planning higher education in subsequent waves of the pandemic and in a post-pandemic situation. For better understanding the situation of higher education during the global health crisis in different countries, the future studies in this area should consolidate representativeness, extend to a well-justified national scope, take into account the existing traditions in conducting distance education in educational systems, incorporate the faculty's vision, etc. Subsequent research should, on the one hand, be based on the methodology of quantitative research, enabling the consolidation of the representativeness of the studied population. On the other hand, qualitative research (case studies, ethnographic research, action research, biographical research, etc.) should also be carried out, deepening the understanding of the problem at hand. It would be valuable to conduct

research on a large scale within international research networks. International sharing of experience in this area becomes a value.

VIII. Compliance with ethical conventions

The study was conducted according to the Guidelines of the Declaration of Helsinki as well as to the “Ethical Guidelines for Educational Research” elaborated by British Educational Research Association [BERA] (2018). The approval of the Ethics Committee was not required.

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