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Online Educational Experiences in Some Majors of Eszterházy Károly University

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Abstract:

Introduction: In Hungary, as in many parts of the world, a crisis situation has arisen with the start of the quarantine period associated with the coronavirus, which presented the education system with a serious challenge. Social inequality (also in terms of network access and device availability) was expected due to, that differences will only increase the gap in education. Digital connectivity and the digital environment became the main arena for students and faculty over the course of a weekend. That's a real question, of course, can we talk about real digital education during this period? Was online education effective or was it rather a blind spot?

Methods: In our research, we examined it from the perspective of geography teachers, kindergarten teachers, and university students attending teaching courses learning and teaching „switching online" betweem March, 2020 and April, 2021 at the Eszterházy Károly Catholic University (then even EKE). Our sample consisted of 108 people. We used an online questionnaire study to assess students' experiences with the effectiveness of distance learning and the development of their digital competence, about the possibilities of implementing professional internships. We were looking for student answers to, how each segment of distance learning can be integrated into the normal education system. We compared our results with similar Hungarian and international research results.

Results: Most students felt that online education was effective. The digital competence of students has evolved. Due to changed circumstances of traineeships, students could not gain enough experience, which could later affect their work.

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Discussion: The changes that have occurred can be highlighted as secondary benefits, this educational environment could be more sustainable in the future, than the traditional educational environment, however, the consequences of isolation cannot be ignored.
Limitations: The research shows data valid only for Hungary.
Conclusions: Consideration of the experience of students for the effectiveness of their education in the coming years.

Key words: online education, pandemic, efficiency, student experience, teacher.

Introduction

The Corona-virus pandemic in the spring presented the world, including higher education, with unprecedented difficulties (Crawford et al., 2020). Interpreting this difficulty as a challenge and opportunity for development ("COVID-19 as an opportunity") quickly spread in the public discourse about the pandemic; this rate encouragingactors in higher education to respond efficiently and immediately (Serfőző et al., 2020).

The need of the information society for the introduction of distance education has already appeared, however, preparedness is still in its infancy, both from educational and methodological point of view. The devices of both students and teachers, as well as network access, were not always suitable for maintaining perfect contact in the online space for the joint presence of groups of 20-30 people, and for using different applications in parallel. In addition, there were also great differences in individual competencies on both sides.

However, the use of ICT tools was not previously unknown in the field of education. The training and output requirements of Undivided Teacher Training were already published in 2013 (8/2013. (I. 30.) EMMI regulation, 2013), emphasizing the application of modern ICT in teaching and learning: effective and professional use of digital textbooks, teaching aids and other learning resources, methods of learning organization related to these, more important methods, knowledge and application of teaching and learning strategies, and the importance of critical attitudes (Cserné Adermann, 2020). The realization of this goal has been and continues to be influenced by many parameters, among which personal attitudes and an individual protest in the use of digital devices is also included.

According to Éva Gyarmathy, the psychologist (2021), there is something that can be highlighted as a benefit in this forced situation. New learning activities could also take shape in higher education, which inspired students to explore individual and social learning pathways. However, in addition to some

pedagogically valuable consequences, we should mention serious psychological problems.

The dormitories were also closed during the pandemic. This affected university students as an additional problem. It wasn't just their housing that came into question, but in many cases, their employment opportunities have also been reduced (Lee, 2020). Thus, in addition to the psychic, financial troubles were also a serious burden. In terms of our mental health, Gyarmathy has divided the psychological consequences of the pandemic into five categories:

1. „anxiety caused by the pandemic;
2. the psychological effects caused by the quarantine situation;
3. impacts of the transition to online education;
4. direct effects on the nervous system;
5. the spiritual effects of chaos" (Gyarmathy, 2021).

These consequences may vary in terms of student populations. The question legitimately arises: if we look only at higher education institutions, where did they deal with these effects after the institutions reopened their doors? Are there any specific assistance programs available to deal with these problems? It is likely that these effects will have a negative impact in the long run, perhaps only in their world of work. In our opinion, it is not too late to handle this in the educational arena. In the case of Eger, we must say that university psychologists are colleagues (e.g., Institute of Psychology), and other departments of the university (e.g., Peer Support Mental Health Counseling Office) also provided support in this area to our students; naturally, to those who gladly took advantage of this opportunity. In addition, we discussed a lot about it with our students during our classes and at other times, even online.

At EKKE we examined several forms of educational experience during the first quarantine period. With the help of the information obtained during our research, we would like to highlight the positive elements that may be suitable for later integration into the normal education system. This idea is confirmed by the energy crisis announced in 2022, when universities faced a serious challenge in maintaining institutions.

The questions covered:

- to assess the development of individual digital competence;
- the difficulties and ways in which traineeships can be carried out;
- exploring the potential of distance education.

Furthermore, we explored the Hungarian views on the concepts developed during the pandemic, how to define the newly appeared form of education.

1 Materials and methods

For the compilation and evaluation of the questionnaire, we used the research methodological works of (Babbie, 2001) and (Lengyelné Molnár, 2013), as well as the joint work of (Falus & Ollé, 2008).

We reached the students of EKKE with the help of an online questionnaire. Our sampling base was kindergarten teachers, teachers, Geography BSc¬ students, and students of geography and natural history teacher majors both full-time and correspondence classes. The survey dates were March and April 2022. The online questionnaire was completed by 108 students. The number of fill-ins was lower than expected, perhaps due to the fact that students already had less energy to complete the online tests because of the workload of online education. We wanted to observe differences between the sections, possibly undergraduate and master's students. The data of the received responses were evaluated using basic statistical indicators, considering the type of work schedule in some places. We looked for significant relationships between certain indicators by cross-examination. We checked the null hypothesis with the chi-square test. If the significance level for the chi-squared value was lower than 0.05, then we rejected the null hypothesis, otherwise we kept it, this was the value we have applied.

2 Results

2.1 The educational experience

The proportion of students, who have completed work schedules, has become interesting: exactly 50% of the students were correspondence and 50% were full-time. The p=0.98>0,05 based on value, there was no correlation between the studied data and the section in most cases, but we have observed a connection in some specific issues.

Among the respondents, 37 people (34%) were teachers, 47 participant (43%) were kindergarten teachers and 25 respondents (23%) were science students. The p=0.16>0,05 there was no correlation between the data studied and the major.

According to the number of semesters spent in training, the pandemic in the sample mostly affected the first half of the training of respondents, 1-3 semesters. This means that the initial phase of their training was affected by online education due to the pandemic. They started their studies at our university in 2019 and 2020 their rate was about 58-58%. The proportion of seniors was less than 5%. Freshmen may have had more difficulty with online instruction in that they did not yet know the instructors in person, they could not get used to the style and expectations of the instructors. Due to the lack of contact provided by the online space, social life has also been minimized. Due to the changed

circumstances, a new trend has emerged, according to which more and more people are opting for non-full-time courses in higher education. The number of students increased by approximately 1.3 thousand people among non-full-time students compared to the 2019/2020 academic year in 2021 (Hungarian Central Statistical Office, 2021). Several people have dealt with the definition of the established work schedule. Is digital education or distance education really the phenomenon to be named? Capitalizing on results can become an important factor for the education of the future. According to the results of an international research, the usual learning-teaching practice will change to this effect by turning on certain online elements, as has happened since then (School Education Gateway, 2020).

Based on the responses, most instructors in the previously mentioned majors chose Microsoft Teams (48%) (Figure 1), after all, the university (EKE) preferred this during the trainings. Computer scientists automatically imported courses and students into the interface in the first year of the virus, but this was no longer realized later, but the instructors had to add students to the courses one by one. There were also students who could not get involved in education for several months, although their rates were low. As a result, there were no dropouts in the named majors. In addition to Teams, respondents also marked Google Classroom (7%) and Google Meet (7%) as contact platforms.

In contrast, in public education, in institutions where the use of a particular platform was not mandated, the biggest winner in introducing a digital work schedule was Google Classroom. In addition, Facebook, Messenger and email were used by educators, where they typically tried to implement traditional teaching methods using ICT tools in an online space (Kovács, 2021).

In the recent period, teachers have received a relatively large amount of IT and other trainings from which we can conclude that they have been doing a good job for teaching in the digital space. Despite this, they lack methodological knowledge in the field of online education (Malatyinszki, 2020).

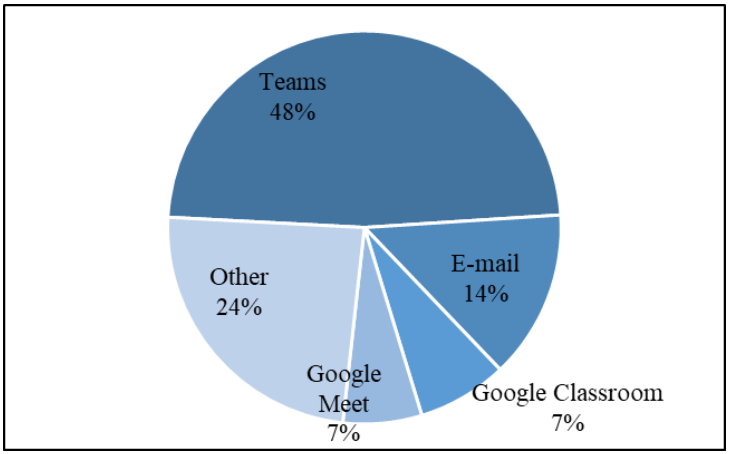


Figure 1. The digital place of online education.

In addition to the interface chosen as the digital arena of education, it is worth examining what we mean by digital and online education. What we call digital education in everyday life is more of a digital work schedule, where the instructor communicates with his students online, thus avoiding face-to-face contact. During real digital education, teachers use ICT tools as a methodological element in real space.

Digital education is a cognition process with consciously designed scientific needs that is based on faculty and student activity. The instructor only plays a guiding role, with students sorting, interpreting, and processing important information. This procedure improves the students' information management skills and information literacy (Szőke-Milinte, 2020).

The concept of online education is already more closely related to the situation that has arisen. By online education we mean net-based, virtual education. Under this form of education, its technological presence is essential: it includes computers, smartphones, virtual classrooms, digital systems (Urdan & Weggen, 2000).

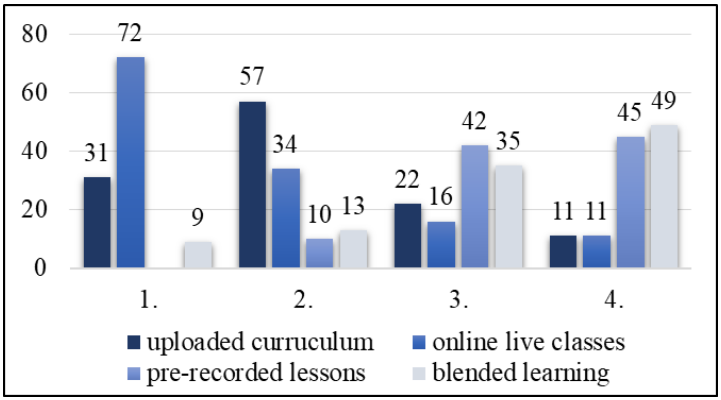


Figure 2. Frequency of lesson types (%).

Figure 2 shows the frequency of lesson types during the period under review on the Likert scale. According to this, the instructors prioritized "uploaded material" and online live lessons (Figure 2). Apparently, few instructors have chosen the blended learning method (when traditional classroom instruction is complemented by online content). On the plus side, the blended learning method has already appeared in higher education. This provides a good basis for the subsequent use of this method.

According to most students, the amount of curriculum to be completed was not more or less than the normal educational schedule (Figure 3). Only 40% of students sensed a change in the direction of surplus. In contrast, the number of papers to be submitted increased (Figure 4). The measurement-evaluation process, which can be implemented into online space similarly to traditional accountability, is still an unresolved problem. In Hungary, we are currently not aware of any online interface that would exclude the use of unauthorized aids while students write a test online (Réti, 2021).

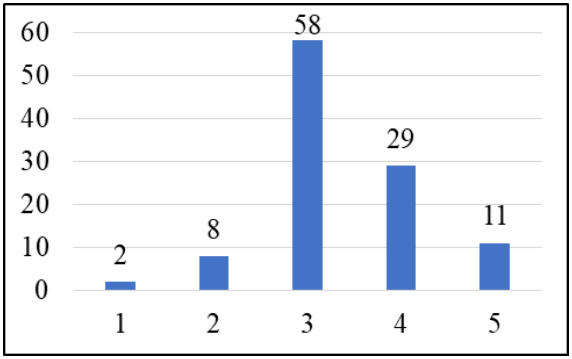


Figure 3. Increase in the amount of curriculum (person).

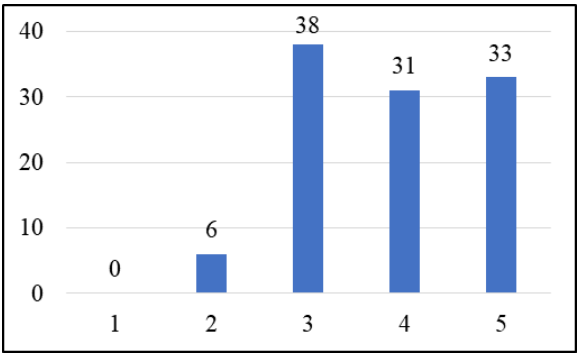


Figure 4. An increase in the amount of papers to be submitted compared to normal education (person).

Despite all the difficulties, our survey revealed that 75% of students felt that learning the curriculum during distance learning was effective.
In terms of technical equipment, 29% of students had to buy a new device, mostly laptops and then phones. Most of them had a stable internet connection, so they had no problem with that when they had online classes. However, during the textual assessment, several people highlighted (11% of the students who came out of it) that they had switched to a larger internet package or mobile internet. The purchase of a new device was mainly for students studying kindergarten teachers and teaching majors.

Unfortunately, there were students who could not be included in the dynamics of online education. There may be a shortage of tools here, but perhaps it is less so, it is rather the competences provided by the digital space that can occur to students in higher education as the reason for their dropout.

According to previous research, one of the biggest drawbacks of online training can be cited as the high dropout rate. The causes of attrition can be different: forms of life management, lack of motivation, not the expected curriculum/content. An international 2016 survey measured an 18% completion rate within the online education system. Early school leaving rates in forced digital education could be similar (Semenova & Rudakova, 2016). As already mentioned, this was not observed in the case of our majors, at least not at a higher rate than in the previous or subsequent period.

European and North American literature try to research the future effects (McMorris-Santoro, 2021). Early school leaving can also be a serious problem in developed countries. The pandemic made it easier for students to fall behind. In the United States, there was a steady downward trend in dropout rates in the pre-pandemic period. During the pandemic, however, the number of turnout and enrollments declined sharply, and the downfall rate increased. Teachers say the closure of classrooms has caused the most difficulty. Isolation from public spaces has mainly affected disadvantaged pupils. Due to economic difficulties, students' priorities have changed. They find existential security in the world of work instead of studying (McMorris-Santoro, 2021).

When asked if there was a subject that they had not been able to complete due to the difficulties of distance learning, there was a connection with the student's section ($p=0,03<0,05$). In the case of correspondence students, they had several subjects that they did not complete in that semester.

Table 1

Percentage of subjects not completed

Contingency Tables

Course		*is there an unfulfilled subject*		
		no	*yes*	*Total*
full-time	Count	52.00	2.00	54.00
	% of total	47.71 %	1.83 %	49.54 %
correspondence section	Count	46.00	9.00	55.00
	% of total	42.20 %	8.26 %	50.46 %
Total	Count	98.00	11.00	109.00
	% of total	89.91 %	10.09 %	100.00 %

Chi-Squared Tests

	Value	Df	p
X^2	4.81	1	0.03
N	109		

Since there was a higher proportion of geography majors among correspondence students, even the correlation study shows a slight relationship with the major in this matter (p=0,0000887). Out of the 25 geographer respondents 8 had unfulfilled subjects, while the number was 3 for the teachers and there was no kindergarten teachers (Table 1).
Closely related to the problem of measurement-evaluation, there is the issue of meeting the deadline. Even in normal educational order, the deadline is a big ordeal for most students. During online education, organization and adherence to the agenda have become more valuable. However, based on the responses, we did not find a significant relationship between meeting deadlines and gender distribution (Table 2). Only 10% of respondents did not cope with this task.

Table 2

Meeting deadlines

		Deadline keeping		
		no	*yes*	*Total*
male	Count	3	17	20
	% of total	3 %	16 %	18 %
female	Count	7	82	89
	% of total	6 %	75 %	82 %
Total	Count	10	99	109
	% of total	9 %	91 %	100 %

During the epidemic situation alone, effective communication between student and teacher was a serious problem. According to the results of a qualitative study, many educators identified assessment and the true value of grades as the most problematic issues (Monostori, 2021). On the student side, there was a drastic decrease in feedback. It is from this phenomenon that educators have preferred online test preparation applications for quick feedback. This proved to be a quick solution to assess students' level of knowledge, but it did not prove to be a solution for implementing continuous improvement assessment (Digital Comenius Annual Report, 2021). Of course, there are many factors behind the lack of feedback. Talking to colleagues, we concluded that the increase in time spent in front of the device, the care of the rest of the family, the teaching of their children and their need for equipment are also behind this. It is not necessarily disinterest that characterizes the explanation of this phenomenon.

2.2 Experience with traineeships

Based on the responses, internships have not been left untouched by the pandemic period. 64% of the respondents had an internship during this period (in school, kindergarten). It was mainly during the open-ended response options that

the students addressed the problems that arose. Abbreviated school internships and reduced programs were reported by students. By reducing the duration, they were able to comply with epidemiological regulations, reducing the risk of infection. This situation was further complicated by the unpredictability of the timing of the exercises, as a significant part of the students, or the mentor teachers, were often missing. All this occurred at a very sensitive time for prospective teacher candidates, as in the absence of experience and routine, they would have required more preparation time during their practice school activities. Because of this, anxiety was perceived; however, several people felt that the obligation was coupled with an increased risk to health.

The biggest differences between students' opinions by work schedule were related to these two issues (Table 3). A higher proportion (1970-1999) of older students were born before 2000 and 100% felt that learning knowledge during distance learning was effective. 48% of students born after 2000 stated that this learning knowledge was effective. It can also be seen from this that correspondence students are self-absorbed; they felt they had more time left over during the online education period. Thus, in correspondence training hybrid solutions dominate nowadays. Lectures are more online, and hands-on classes are done in person. Or, in case of illness, it is also possible to turn on the missing students in contact classes if they require it.

Table 3

Differences between full-time and correspondence sections

Work schedule	*Did you feel it was effective to acquire knowledge during online education?*		*Which educational option would you choose in the long run?*	
	yes	no	contact	online
full-time	65%	35%	67%	33%
correspondent	91%	9%	31%	69%

In examining the effectiveness, full-time students shared several negative experiences: they had trouble concentrating in online classes, they noticed a serious loss of motivation on themselves, and they had a hard time managing their time well. In contrast, correspondent students expressed several positive thoughts: individual pace, time, and cost-effectiveness, as well as more flexible schedules (Table 4).

This is in contrast to the research of ELTE-TÓK undergraduate – infant and early childhood educator, kindergarten teacher, teacher in full-time and correspondence classes, where, according to students, the advantages of distance education include flexible schedules (62%), and the convenience of learning from home (60%). This is perceived more strongly by full-time students than by correspondents. They believe (44%), it is useful in online communication that

written answers to their questions can be retrieved later, shared content (40%) can be used at any time (Serfőző et al., 2020).

3 Discussion and conclusion

Online education has proven that the work of a teacher is very complex. In addition to knowledge transfer in the classical sense, mentoring learning, supporting students, and facilitating social learning processes have risen to the main tasks of reducing the sharpened social disparities (Perjés & Héjja-Nagy, 2017).

Based on the results, it was confirmed that the education system, forced into the online space, is capable of independent change. If it could react so quickly to critical situations, it would also be able to adapt to the needs of the information society, so that it could achieve real efficiency gains. The first step is merely to assess the experiences of students and to examine the positive and negative qualities of online education.

After this, we must not forget this difficult period and be contented it is finally over, and the system before the pandemic can be restored. We must rethink and reform the system that can finally serve the needs. We need to be prepared for similar situations in the current uncertain economic and social space (e.g., Ukrainian War).

First, it is worth highlighting the positive elements from the experience. Our natural environment is also crying out for serious help, so it should definitely be mentioned that the online educational environment seems to be more sustainable comparing to the one before the pandemic. In addition to the current economic crisis, it can also reduce the financial burden on students with possible travel and accommodation costs. The energy crisis, in which we are currently living, raises further questions about online education. Hybrid education could be considered as a solution. However, this would require methodological preparation of teachers, which is currently not sufficiently prepared. As surveys in Hungary show, digital competence in teachers is constantly evolving. With the right methodological trainings, real progress could be achieved, the integration of which into education could alleviate the need to weather crisis situations. However, several training opportunities offer only semblance solutions.

The human social factor is necessary for a full life, and this was sidelined during the pandemic. The metal health of students suffered the most because of this shortage, but this was not in the focus of our investigation. However, we examined the development of students' digital competence during that period. 89% said they had improved or significantly improved their digital competence. According to a previous survey of teachers, teachers also noticed the development of their digital competence. They had to keep up with the expectation of the situation that the pandemic and online education required. For

example, those who did not have digital literacy went to catch up (Homoki & Nyitrai, 2022). It is an interesting observation of the potential for development of the forced situation. There is already a generation in higher education who have learned to use the tools in a self-taught. Many students have learned to use ICT tools. In several cases, the problem was the use of applications and online interfaces. This was unknown to them; and it took time for them to learn how to manage the platform. Not all majors had the same online interface, so there was an extra burden on students. Unification would be an important step, thus creating a simpler, cleaner situation next time, which would be better for students. Although our students are slowly being born with mobile phones in their hands, the use of ICT tools covers a narrow area. Work software is not used, so their development is also necessary during the training period. However, this also requires a well-functioning and software-well-equipped educational arena not only at EKKE, but also in all higher education institutions.

The traineeships for teachers did not go as usual. The main task of students is to gain experience, and this has also been a serious difficulty during the pandemic. They could not gather the right amount of experience or did not have enough time to practice. They can no longer be replaced, so it is necessary to fill in the gaps after entering the work.

These experiences should be seriously evaluated and, if possible, resolved for a possible next difficult period.

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