

Are the Benefits of Emergency Remote Education Truly Benefits? Ethical Dilemmas and Research Results on Emergency Remote Education from the Perspective of Prospective Teachers and the Foundations of Pedagogical Study Programmes

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Commencing in March 2020 and continuing during the 2020/2021 academic year, all university education was forced to introduce emergency remote education due to restrictions imposed in countries affected by the Covid-19 pandemic. In the present empirical study, which includes a representative sample of students from one of the education faculties in Slovenia, data was obtained on the conditions and implementation of study programmes via emergency remote education. The areas of study were the material conditions for studying, the pedagogical process in emergency remote education, the ethics of the rules of performance and assessment, and the academic community. The study provides an analysis of the changes that took place in the implementation of the pedagogical process during emergency remote education from the students' perspective and an examination of the extent to which it provided equal opportunities for students. The results show that the success of students in their studies depends on technical conditions and the environment; that rapid transitions from one type of studying to another (from emergency remote education to hybrid or entirely at the faculty) are not recommended; that the teaching process was based on the concept of face-to-face teaching, partly adapting to different conditions on this basis; and finally, that the "desire for comfort" entered into the assessment of the quality and fairness of the educational process. Based on the values of our professional ethical judgement and the results of the study, we conclude that higher education teachers should be aware that providing comfort to some students who have the appropriate conditions for studying or simply preferring to teach from the comfort of home are not adequate reasons to maintain online delivery of courses compared to the criteria of justice and quality in education.

Keywords: pedagogical study programmes, emergency remote education, ethics, distance learning, justice, prospective teacher

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Ali so prednosti izobraževanja na daljavo v sili resnično prednosti? Etične dileme in izsledki raziskav o izobraževanju na daljavo v sili z vidika bodočih učiteljev in temeljev pedagoških študijskih programov

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☞ Z marcem 2020 in v študijskem letu 2020/21 je bilo vse univerzitetno izobraževanje zaradi omejitev, uvedenih v državah, ki jih je prizadela pandemija covid-19, prisiljeno uvesti izobraževanje na daljavo v sili. V tej empirični študiji, ki vključuje reprezentativni vzorec študentov ene izmed pedagoških fakultet v Sloveniji, so bili pridobljeni podatki o pogojih in izvajanju študijskih programov prek izobraževanja na daljavo v sili. Področja preučevanja so bila: materialni pogoji za študij, pedagoški proces v izobraževanju na daljavo v sili, etičnost pravil izvedbe in ocenjevanja ter akademska skupnost. Študija prinaša analizo sprememb, ki so se zgodile pri izvajanju pedagoškega procesa med izobraževanjem na daljavo v sili z vidika študentov, in preučitev, v kolikšni meri je ta študentom zagotavljal enake možnosti. Izsledki kažejo, da je uspešnost študentov pri študiju odvisna od tehničnih pogojev in okolja; da hitri prehodi iz ene vrste študija v drugo (iz izobraževanja na daljavo v sili v hibridno ali v celoti na fakulteti) niso priporočljivi; da je pedagoški proces temeljil na konceptu neposrednega poučevanja in da se je na tej podlagi deloma prilagajal različnim razmeram; in končno, da je v oceno kakovosti in pravičnosti izobraževalnega procesa vstopila »želja po udobju«.

Ključne besede: pedagoški študijski programi, izobraževanje na daljavo v sili, etika, učenje na daljavo, pravičnost, bodoči učitelj

Introduction

From March 2020, all university education institutions were forced to introduce “distance education” due to restrictions imposed in countries affected by the Covid-19 pandemic. This was an emergency in which degree programmes that were neither conceived nor formally accepted as distance education programmes had to be implemented at a distance due to the exceptional circumstances. In the present empirical study, we investigated the implementation of degree programmes in this situation, which, due to its specificity, raises fundamental ethical questions in the field of teaching at the university level.

Due to its exceptional nature, online teaching does not correspond to the concept of “distance learning” as it has been known in various forms for around 200 years (Harting & Erthal, 2005). Distance learning is when the teacher and the learner are physically separated, and the pedagogical approaches and the overall organisation of the processes are adapted to this form of learning. In modern times, distance learning programmes have the following specific features: planning, organisation, development and courses are designed according to distance learning; students have sufficient technological equipment for the courses they take; technical staff have enough time and experience to find ideal solutions to problems; and time management is under the initiative of the teacher (Unver & Sungur, 2022). The advantages of such programmes are claimed to be that students can study “from home”, and the message of the slogan advertisements inviting students to enrol is “simplicity”: “Earn a college degree in your pyjamas!”, “Get your bachelor’s without leaving the house!”, “Study wherever and however you want!” (Loveless, 2023). Prospective students are therefore led to believe that distance learning programmes are convenient and easy. More realistically, the website Education Corner warns students: “While the flexibility is real, know that college isn’t supposed to be easy, and it’s rarely convenient” (Loveless, 2023).

During the Covid-19 pandemic, educational institutions had to convert non-distance education programmes into e-classes overnight and teachers had to modify their pedagogical approaches to adapt to the changing situations. Hodges et al. (2020) therefore define this process as “emergency remote teaching”. As our study explores not only teaching, but also learning and the social aspects of the pedagogical process, we use the broader term “emergency remote education” (hereafter ERE). ERE is characterised by an attempt to adapt the existing curriculum, an unplanned and rapid transition, and students not having equal technological equipment for distance learning. It is a situation in which face-to-face courses are given online and teachers experience time

management problems due to working in the home environment (Unver & Sungur, 2022). One obvious similarity between distance learning and ERE is the absence of face-to-face teaching. The key differences are that distance learning programmes start from a predominantly self-directed learning perspective and that both the timetable and the teaching are structured differently for students than when delivered on the premises of a higher education institution. In ERE, the pedagogical process, which was originally designed differently, has “merely” been transferred to “distance learning”.

The present research focuses on study programmes for the education of prospective teachers. In comparison with most non-pedagogical studies, the conditions of ERE in pedagogical studies raise specific questions derived from the fact that in addition to providing a range of disciplinary knowledge (languages, mathematics, science, social sciences, etc.), a fundamental goal of all pedagogical study programmes is the acquisition of pedagogical knowledge, attitudes and skills, which students develop primarily in direct contact with professors, assistants and other students, as well as in pre-service practice. The execution of the face-to-face pedagogical process itself therefore has important educational effects for prospective teachers. At the same time, higher education teachers and professionals, through their work and behaviour, indirectly communicate to students their attitude towards the ethical values and principles that should be followed by a quality pedagogical process.

The results of the research have been partially presented at three scientific conferences (Hodnik & Krek, 2023; Hodnik et al., 2021; Krek et al., 2021). Here, we present the study in the post-pandemic era, which has allowed us to review previously published research in this area. Karataş et al. (2021) analysed 20 surveys of students and teachers in the higher education sector in different countries, all published in 2020. The authors summarised the main and common findings of the different studies as follows. It was evident that the most common difficulties encountered in the process were technical problems, including insufficient equipment, the low speed of internet connection, disconnections experienced by many students, and the inability of students living in rural areas to access their course content due to their internet infrastructure. Differences in access to the study process due to differences in the technical conditions of working from home are probably largely the result of social differences. Therefore, a study process to which students do not have equal access constitutes an ethical problem from the point of view of the fundamental norm of justice, i.e., the provision of equal educational opportunities.

Regarding the process of teaching and learning, Karataş et al. (2021) summarised research findings demonstrating that many distracting factors in

the home environment affected students' performance in learning: students expressed the difficulties of working at home because their parents and siblings were also at home during ERE. Most students agreed with the view that distractions caused by their physical environment reduced their ability to participate in online classes and to perform optimally. Another significant problem pointed out by Karataş et al. (2021) in their summary of research is related to assessment and evaluation: students involved in different surveys were concerned about the reliability and safety of exams and the difficulties in measuring and evaluating practical skills, technical competencies and skills such as teaching practice. The results of the studies analysed by Karataş et al. (2021) indicate that the difficulties experienced during ERE affected learning in many ways. It was observed that students' class participation was reduced and communication between student-student and student-teacher was not conducted properly, while the rich interactions between students that are necessary for attendance, participation and learning were lost. On the other hand, strong communication established between students and faculty members before the pandemic increased the participation of students in courses.

It was reported that although students found online synchronous lessons especially useful in maintaining the learning process in a planned way, using synchronous and asynchronous environments together was more effective. Asynchronous environments were found to be useful, as they enabled students to learn by providing the flexibility to repeat course content whenever they wanted.

Regarding the implementation of ERE, it is clear that the analysis of surveys undertaken by Karataş et al. (2021) focused on the material conditions for studying as experienced by students in their home environment, access to appropriate ICT resources necessary for studying, and issues related to ensuring fairness in the assessment of knowledge, as well as on some other pedagogical aspects of the implementation of the study. While some of the issues are related to the effectiveness of studying, the key questions raised by ERE are from the perspective of justice. It is not surprising that journals now devote special issues to ethical perspectives on the social and economic consequences of Covid (see *Studies in Philosophy and Education* 2023, Volume 42, Issue 1). Research on Covid-19 in higher education in Slovenia has addressed the following issues, among others: developing pedagogical competences and exam delivery and stress (Gradišek & Polak 2021), combining distance learning and practical training (Plevnik 2021), anxiety in students and non-students (Podlesek & Kavčič 2021), and students' learning self-regulation (Žerak et al. 2021).

Theoretical basis of the research

The premise of the present study was that there were changed conditions of studying in which the quality of the educational process was affected by the social circumstances of the student and other changed living conditions independent of the educational process itself. Ensuring equity is therefore a particular substantive issue highlighted in our study. The basic criterion of justice in the Slovenian school system is the principle of ensuring equal educational opportunities (cf. Kodelja, 2006). This is based on equality in the concept of human rights and is a universally valid norm of the education system. As a fundamental principle of justice in the school system, it is also valid in higher education and will therefore serve as our general criterion for judging the conditions for studying and the study process itself. Equality of conditions has two aspects within the framework of the concept of justice: firstly, equality of access (e.g., equality of conditions for enrolment in a programme, equality of access to an examination, etc., so that differences in the knowledge and skills acquired by students are the result of individual merit rather than the result of unequal conditions of access to study or to parts of the study process), and secondly, equality of starting points in terms of the material conditions that enable an individual to study.

Before addressing these questions, it is important to highlight the formal framework for interpreting research results in the context of ERE. Among the relevant published research, we have, for example, come across a study that presents the results as opportunities for improvements in teaching, which can be understood as meaning that it is “just” or “precisely” the circumstances of ERE that would allow the process to be carried out in accordance with certain desirable pedagogical principles. The authors stressed that “our exam questions enabled students to find practical implications and creative solutions to hypothetical problems (case studies) in the exam using higher taxonomical levels of knowledge” (Gradišek & Polak 2021, 292). Since these principles should have been taken into account in exam preparation in any case, also before the pandemic, the result of their application can be interpreted in two ways: either (1) that they could have been taken into account during the pandemic, as in normal circumstances, but it does not follow that the circumstances of the pandemic made this possible; or (2) that they were only taken into account during the pandemic. In the second case, the conditions of the pandemic are presented as opportunities for improvements in teaching, implying that the educational process did not take these principles into account beforehand, when it should have done. In this case, the result would only reveal the weaknesses of teaching

before the crisis. However, since it is very likely that even before the pandemic, higher education teachers were preparing and delivering examinations in accordance with the principles mentioned in the quotation above, it follows that an interpretation that attributes teaching improvement to these “external circumstances” does not actually consider whether the reason for adherence to these principles was a change in the “external context” of the teaching process during the ERE period or something else. When researchers interpret the result as a “fact” without carefully considering the criteria required for interpretation, i.e., whether the result can be attributed to the specificity of the ERE context or to their own efforts as teachers despite the changed context, they arrive at a false correlation, thus giving rise to the seemingly “optimistic” (if true), yet “catastrophic” message that only the circumstances of the pandemic made it possible to put these fundamental pedagogical principles into practice.

Almost three centuries ago, the philosopher David Hume (2006 [1748]) pointed out that ethical implications cannot be directly deduced from any factual observation. A factual finding has to be placed into certain normative, professional or social frameworks, into the field of the ethical, which bring arguments and criteria of evaluation. This step only establishes the basis for interpretations of fact, the frameworks of possible arguments for conclusions. Statistically processed data on students’ responses, obtained according to the principles of empirical quantitative social science research, can be understood as facts within the framework of statistics and facts about subjective opinions, and can only be properly interpreted based on professional, scientific and broader ethical premises. In the present study, the two starting points highlighted are the consideration of the broader social context of the pandemic and the fact that we are exploring and interpreting the delivery of pedagogical study programmes that were not designed as distance learning. The challenge for interpretation is to introduce relevant contexts and to consider whether or not, or how, these specific contexts contributed to the research findings.

In addition to the above, the pandemic brought a further context to consider, namely, that the attitudes of all those involved in the study processes may also have been shaped by individual values and skills regarding technology (Šimenc, 2021). Since ICT made teaching in crisis situations possible in the first place, a “positive” perception of what technology makes possible may have crept into the perception of the situation, leading to an uncritical evaluation of the actual processes. The search for the benefits of technology can neglect the fundamental starting points of study programmes, while resistance to or ignorance of ICT may have the effect of making individuals less engaged in these processes.

In our literature review, we found that an approach that overlooks this underlying context of events in the interpretations of results, and is largely enthusiastic about what technology makes possible, is very common, and that researchers point out in their conclusions, among other things, that teachers could be better trained to work with ICT (e.g., Anderson, 2021; Karataş et al., 2021; Korhonen et al., 2021; Mäkipää et al., 2021). These demonstrations turn technology, which is a means, into an end. As Šimenc (2021) points out: “New technologies in education are thus not only neutral aids for teachers, but can change the structure of the pedagogical space. They can foster the tendency for technology to replace teachers and contribute to narrowing the goals of education. Therefore, when new technologies are introduced, it would be useful to develop a reflection that recognises these tendencies and thematises them accordingly” (pp. 23–24, authors’ transl.) A characteristic of the above research is a lack of such reflection. The authors draw conclusions that do not place the results in the context of the implementation of the pedagogical process in a pandemic situation in which the use of ICT was a condition of any implementation at all; ICT was not just a tool to be used when, in terms of educational objectives, it was assumed to be a more effective means of achieving these objectives than some other means. In research that assumes the views of participants without taking into account this specific pedagogical and social context, a serious question arises: To what extent can the findings be valid? To what extent are the findings relevant outside the context, i.e., in a normal social situation where study programmes can be implemented as they are designed? If we do not start from the objectives of the curriculum and consider the most appropriate means to achieve them, the necessity of using ICT in a specific context could become a thoughtless reason for changes in teaching in higher education in normal circumstances.

In the present paper, we therefore start from the assumption that the aim of the curriculum is not the use of ICT technology or any other method, form or didactic tool *per se*. When we judge these processes, the ethical and professional starting point for our understanding must therefore be the design and objectives of the study programmes, which includes the specificities of their particular content areas, the fundamental aims of the programme, and the fact that they were organisationally and pedagogically originally conceived in a face-to-face delivery mode.

Although objective data exist in the form of formally obtained assessments, we also wanted to obtain students’ views on their attainment of knowledge in the context of ERE, as these subjective assessments can be one of the data from which to draw conclusions on the attainment of the fundamental

objectives of study programmes. We assume that it is difficult to draw any conclusions about the quality of delivery from data on the use of ICT technology and the use of different methods and forms of pedagogical work *per se*. These pedagogical processes are too complex to draw any conclusions about the pedagogical quality of implementation based on data on the use or non-use of a particular didactic or technological tool. Nevertheless, it is possible to draw a tentative conclusion from such data as to whether or not there were significant or even unprecedented changes in the didactic implementation of the pedagogical process in the context of ERE. Individual student responses concerning the conditions for studying (e.g., accommodation during the study period, possibilities to use various ICT resources, access to literature) can be understood as student assessments of factual conditions influenced by various factors that are difficult to identify. In interpreting these assessments, in addition to taking into account the broader social context of the research, it is necessary to consider criteria regarding what ensures the quality of studying in general.

Despite the differences between ERE and distance learning, they do share certain similarities. These are the presumed strengths of the distance learning concept that gave rise to it in the first place. For example, the socioeconomic situation of certain students may be relevant to the circumstances that led to the concept of distance learning, such as the difficulty of accessibility to the place of study for the student and the more demanding financial conditions of face-to-face study; other specificities may also be very important, such as the difficulty of the student's participation in the face-to-face teaching process due to specific special needs, and so on. We assume that such characteristics of distance learning, at least for the situation of certain students, can be perceived as advantages in the context of ERE as well. Like distance learning, ERE can facilitate the conditions of study for individual students and contribute to levelling the playing field in terms of access to studies. In such circumstances, both distance learning and ERE may be perceived by students as an important aspect of their studies, or as more important than other aspects. At the same time, of course, the student's situation may also be determined by the inequality of certain material conditions, potentially making it difficult, if not impossible, for the student to participate in ERE.

Each form of study therefore raises ethical issues related to the quality of studies and the fundamental right to equal educational opportunities. The starting criterion for assessing the results is the objectives of the study programmes and the possibilities for students to achieve these objectives in the specific circumstances. Even assuming the same specific circumstances of the pandemic, from the student's perspective, not all study programmes are in the

same situation, as the assumptions for their qualitative implementation are different. In our case, this means that the specificities of pedagogical study programmes have to be taken into account, such as the importance of face-to-face interactions in teacher training programmes, the necessity of practical training for teaching, and reflecting on one's own teaching practice.

The research problem

The research problem is to find out what changes occurred in the delivery of the teaching process from the students' perspective during the ERE and to determine the extent to which ERE provided equal opportunities for students. The research is based on two premises: that we are studying pedagogical study programmes that were not designed as distance learning and were delivered as ERE; and that the qualitative achievement of the objectives of the pedagogical programmes presupposes interactions of the participants in a face-to-face pedagogical process in conjunction with the student's independent study. The ethical issues of justice or the provision of equal educational opportunities are particularly highlighted in ERE due to the changed conditions of studying.

On the one hand, the objectives of the pedagogical study programmes derive from the general competences of these programmes, the provision of which has an important impact on the quality of the studies. These general competences are, for example, sensitivity/openness to people and social situations, mastery of communication and other social skills, diversity and the needs of the individual, understanding individual values and value systems, mastering professional-ethical issues, etc. On the other hand, in addition to the general competences, each pedagogical study programme also contains specific competences, the achievement of which is not only about acquiring knowledge at the cognitive level, but also about learning interpersonal interactions, values and attitudes, as well as social and pedagogical skills.

This means that, as in all non-teaching study programmes, the academic community is important. In teaching programmes, however, there are the additional crucial dimensions of learning social relationships and teaching in face-to-face interactions, learning how to manage the teaching process, and putting the values of the teaching process into practice in the teaching process. This includes the various dimensions of face-to-face study, which allows for live interaction between the learner and the instructor and enables learners to benefit from a greater level of direct interaction with their fellow students. In addition, face-to-face study ensures a better understanding and recollection of lesson content and gives class members a chance to bond with one another. It

allows eye contact, gestures and other forms of non-verbal communication, as well as the use of speech and actions in face-to-face interactions to achieve a variety of goals that influence the individual's thinking and feeling and elicit direct responses from those involved in the action itself.

Research aims

The aim of the study is to investigate the implementation of the study process in pedagogical study programmes in the form of ERE during the pandemic period in one of the pedagogical faculties in Slovenia in the areas of 1) the material conditions for studying, 2) the pedagogical process in ERE, 3) the ethics of the rules of implementation and assessment of knowledge, and 4) the academic community.

Method

In order to obtain answers to the research aims using quantitative research methodology, we designed a questionnaire that was offered to students at the Faculty of Education, University of Ljubljana, in an electronic format in March–April 2021.

Sample

The sample included 656 students of the Faculty of Education, University of Ljubljana, aged between 19 and 49 years ($M = 22.4$, $SD = 4.7$). The respondents included 467 female students and 31 male students; the remaining students in the sample did not respond to the question about gender. The average grade of the participating students in the previous academic year (2019/20) was 8.48 ($SD = 0.66$). The sample included 500 undergraduate students, 68 master's students, and 2 students undertaking an additional year; the remaining students did not respond to the question about level of study. At the undergraduate level, there were 268 students in the first year, 77 in the second year, 82 in the third year and 55 in the fourth year. At the master's level, there were 58 students in the first year and 10 in the second year. In terms of study programmes, there were 98 primary teacher students, 86 preschool education students, 75 special and rehabilitation pedagogy students, 26 speech and language therapy students, 84 social pedagogy students, 98 two-subject teacher students, 14 art pedagogy students, 6 cognitive science students, and 11 students who answered "other"; the remaining students did not provide answers to this question.

The study programme of art education is unique in comparison with other programmes because a large part of the programme is related to studio work at the faculty premises, so the data presented below on individual questions regarding this programme are not entirely comparable with the data related to other study programmes. As only six students of cognitive science and two students of the additional year completed the questionnaire, we present these data but do not include them in the interpretations.

Instrument

Including the open-ended questions, the questionnaire consisted of a total of 35 questions, as well as some questions on demographic data. Here we present the results of 18 questions, grouped into four sections: 1) the material conditions for studying, 2) the pedagogical process in ERE, 3) the ethics of the rules of performance and assessment, and 4) the academic community. In the questions presented, 12 used Likert scales, while 6 were multiple choice questions with 3 or 4 items.

Data analysis

Statistical calculations were performed using SPSS software. To ensure validity, the questionnaire was tested on a pilot sample of students and changes were made before actual use. To check the reliability of the results, internal consistency was measured with the Cronbach's alpha coefficient (Cohen et al., 2011). The calculations for the sections concerning the material conditions for studying and the pedagogical process in ERE yielded alpha coefficients of 0.697 and 0.680, respectively; for the sections on the ethics of the rules of performance and assessment and the academic community, the alpha coefficients were 0.770 and 0.760, respectively. This means that the internal consistency among the items was reliable. Descriptive statistics are presented either with percentages or mean and standard deviation parameters; the correlations in indexes were calculated using the non-parametric statistical Spearman's rank correlation coefficient.

Results

The material conditions for studying during the pandemic

In the first set of questions, the students were asked about their conditions for studying during the pandemic.

Table 1

Q1 Please indicate where you were residing during the time of the pandemic.

	<i>f</i>	%
1. Outside my permanent place of residence (in a student dormitory in Ljubljana, in a sublet apartment, etc.).	40	7.6
2. At home (in my permanent place of residence with my family or similar).	368	70.2
3. Due to the pandemic, I moved from my temporary place of residence (in a student dormitory in Ljubljana, in a sublet apartment, etc.) to my home (my permanent place of residence with my family or similar).	112	21.4
4. Other	4	0.8

The results show that 21.4% of the students moved from their temporary place of residence (e.g., dormitory, sublet apartment) back to their permanent place of residence due to the pandemic.

We further asked the participants how they rate the conditions for studying during the ERE compared to before the pandemic.

Table 2

Q2 Please indicate the quality of your conditions for studying during the pandemic compared to the time before it.

	<i>f</i>	%
Better	75	24.6
The same	151	49.5
Worse	79	25.9

The data show that most of the students (about half) rated the conditions for studying as the same, while the rest were split into two roughly equal groups: a quarter of the students rated the conditions during the pandemic as better and a quarter rated them as worse. The reasons that led half of the students to describe their conditions as better or worse during the pandemic remain a matter for further investigation.

As regards the claim (Q3) *fewer opportunities for student work during the period of the pandemic and less of my own income had a negative impact on the quality of my studies*, it turns out that the majority of the students (55.2%) disagree or completely disagree that the reduced opportunities for student work and the reduction in their own income negatively affected the quality of their studies. Some 35.5% agreed or completely agreed with this.

As regards the claim (Q4) *I wanted to undertake student work during the period of the pandemic, but it was not possible*, the responses were as follows: 10.9% of the students could not decide, 17.9% did not agree at all, 20.1% disagreed, 20.9% agreed and 30.2% strongly agreed. This means that more than half of the students wanted to undertake student work but were unable to do so.

Technical conditions were also crucial for studying during the ERE. We therefore asked the students how they felt these conditions were met during the ERE.

Table 3

Q5 *Please estimate the amount of time the following technical means or conditions were available to you during ERE* (the items in italics in Table 3 are later grouped into the index “technical conditions for studying”).

	% Not at all	% A minority of the time	% About half the time	% The majority of the time	% All the time
1. <i>computer</i>		1.1	1.5	14.1	83.2
2. <i>camera</i>	0.2	2.7	4.8	22.3	70.0
3. <i>microphone</i>		2.3	3.4	21.9	72.3
4. <i>good internet connection</i>	0.4	5.0	17.6	58.0	19.1
5. an appropriate environment for the undisturbed following of the educational process at a distance	0.4	5.9	16.6	40.3	36.8
6. access to study literature	3.4	22.3	29.6	28.2	16.4

Some 83.2% of the students had a computer at their disposal all of the time. The rest of them had a computer available most of the time, and none stated that they did not have access to a computer at all. Over 70% had access to a camera and microphone all of the time, and a further 20% had access most of the time. Thus the basic technical conditions for ERE were ensured for the vast majority of the students. However, the situation regarding a good internet

connection is slightly different: one fifth of the students answered that they had a good internet connection all of the time, slightly less than three fifths had a good internet connection most of the time, and one fifth had a good internet connection half of the time or less. In Table 3, italics have been used to mark the statements for the index “technical conditions for studying”, which will be used in further interpretations in certain correlations.

With regard to access to study literature (Statement 6 in Table 4), only exceptionally did the students not have access to study literature at all (3.4% of the students). Slightly more than a fifth of the students had access a minority of the time, 16.4 % had access about half of the time, and slightly less than 60 % had access the majority of the time. A total of 44.6% of the students, i.e., slightly less than half, had access to study literature either the majority of the time or all of the time. These results show that the students were in quite different positions regarding access to study literature. We would have expected the results to show a more positive picture given the fact that all students obtain remote access to the library on enrolment.

The students were further asked to self-assess their achieved knowledge during the period of ERE. For Q6 *Compared to studying at the faculty, the knowledge I acquired in the process of distance learning is lower quality, the same quality or higher quality*, they had to choose one of the answers provided. Some 46.6% of the students chose “the same quality”, 43.1% chose “lower quality” and 10.3% chose “higher quality”. The correlation between the students’ self-assessment of their achieved knowledge and the index “technical conditions for studying” (Statements 1–4 in italics in Table 3) is statistically significant and positive: the better the technical conditions for studying, the better the student’s assessment of their own knowledge (Spearman’s rank correlation coefficient $r = 0.26$, $p < 0.001$).

The correlation for the statement “an appropriate environment for undisturbed following of the educational process at a distance” (Statement 5 in Table 3) with the students’ self-assessment of their achieved knowledge also shows a positive and statistically significant relationship (Spearman’s rank correlation coefficient $r = 0.22$, $p < 0.001$).

Based on both results, we can conclude that the success of students in their studies depends on the appropriate technical conditions and environment.

The educational process in ERE: Students’ presentations of their work

We were interested in how students rated presentations of their products, reports, etc. during the ERE and whether they experienced any stress in doing so.

Table 4

Q7 Please evaluate your agreement with the following statements about presenting your own products (seminars, projects, videos, etc.) in ERE to presentations at the faculty. (1 – I completely disagree, 4 – I completely agree. The items in italics in Table 4 are later grouped into the index “stress” in ERE)

	M	SD
1. When preparing a presentation at a distance, I focused even more on activities that would encourage listeners to participate.	3.17	0.72
2. <i>Presenting your own products at a distance (seminars, projects, etc.) is more stressful due to the unpredictability (or actual occurrence) of technical problems.</i>	3.05	0.93
3. <i>Presenting your own products at a distance (seminars, projects, etc.) is less stressful because there are fewer opportunities for interaction.</i>	2.79	0.96
4. When presenting at a distance, it bothered me that I did not see the listeners and their responses.	2.71	1.05
5. <i>Presenting your own products at a distance (seminars, projects, etc.) is less stressful because you do not have to pay attention to body language.</i>	2.70	0.95
6. When presenting my own products at a distance, I missed interaction and discussions with the other students and the education professionals.	2.59	1.01
7. Presenting my own products at the faculty suits me more than presenting them at a distance.	2.51	1.03
8. <i>Presenting your own products at a distance (seminars, projects, etc.) is more stressful because you do not know what others are doing with your image/picture (whether they are watching you, recording you, etc.).</i>	2.32	1.04
9. I spent less time preparing a presentation at a distance than I would spend preparing a presentation at the faculty.	2.27	0.96
10. <i>Presenting your own products at a distance (seminars, projects, etc.) is more stressful because there is no eye contact.</i>	2.23	0.92
11. For the preparation of products, the education professionals expected us to have knowledge in the field of ICT for which we had not been trained.	1.91	0.80
12. When presenting products, the education professionals also included ICT skills in the assessment, which are not part of the course content.	1.83	0.79

On average, the students agree that when preparing a presentation at a distance, they focused even more on activities that would encourage the listeners to participate ($M = 3.17$, $SD = 0.72$), that they were bothered by not seeing the listeners and their responses ($M = 2.71$, $SD = 1.05$), and that they missed interaction and discussions with other students and education professionals ($M = 2.59$, $SD = 1.01$). The students also reported that they prefer to present their own products at the faculty ($M = 2.51$, $SD = 1.03$).

On average, the students disagree that for the preparation of products, their teachers expected them to have knowledge in the field of ICT for which they had not been trained ($M = 1.91$, $SD = 0.79$), nor do they agree that teachers included ICT skills that are not part of the course content in the evaluation of

products ($M = 1.83$, $SD = 0.79$). The latter may mean that the students are well trained in ICT, or at least that the teachers did not have high expectations in this respect.

Table 5

“Stress” index by years

	Stress Index	
	M	SD
1 st cycle, 1 st year	2.36	0.68
1 st cycle, 2 nd year	2.33	0.69
1 st cycle, 3 rd year	2.47	0.71
1 st cycle, 4 th year	2.59	0.68
2 nd cycle, 1 st year	2.37	0.66
2 nd cycle, 2 nd year	3.07	0.51

In first-cycle study programmes, third- and fourth-year students reported that they were more stressed during ERE than first- and second-year students, while the stress index of students in the first year of the second cycle are approximately at the same level as those of first- and second-year students. This result could be explained by the fact that students of the third and fourth years of the first cycle have more practical training, which was the most difficult aspect of the programme to execute in distance education, required the most adjustment and was reduced in most cases. First-year students in the second cycle ($M = 2.37$) have less practical training than third- and fourth-year students in the first cycle. The results for the second year of the second cycle ($M = 3.07$) can be explained by the fact that there were fewer students in the sample, as well as by the differences between the three two-year master’s programmes (cognitive science, preschool education and art therapy) compared to the one-year master’s programmes.

The average “stress” index is $M = 2.42$, $SD = 0.69$, which means that the students estimated that they had experienced some level of stress while studying at a distance.

Correlations between the “technical conditions for studying” index, the “stress” index and the students’ self-assessment of the quality of their achieved knowledge are not statistically significant.

The educational process in ERE: Teachers' execution of teaching

The implementation of the ERE required a lot of adaptation by teachers and staff. The following questions for students were designed to find out how students rated the implementation of the ERE. These topics concern their right to have access to teaching and their right to equal conditions of information (access to information).

First of all, we were interested in how well the students had been informed about the implementation of the distance teaching process in ERE. In response to Q8 *Please evaluate how well you were informed about remote access to the educational process at a distance*, the students' ratings were: very well 44.4%, well 47.9%, badly 5.9% and very badly 1.8%. The students therefore judge that they were very well or well informed (approx. 90%) about access to distance education, which applies to all study programmes.

We wanted to know the extent to which the students estimated that teachers had implemented the contact hours of the courses. In response to Q9 *Please estimate how many education professionals implemented all of the contact hours of the courses that were on the timetable via ZOOM, TEAMS, etc.*, the following answers were given: all 64.5%, the majority 33.5%, approximately half 0.9%, the minority 0.9% and none 0.2%. In all of the study programmes, the most common answer is that all of the education professionals executed all of the contact hours that were in the timetable. The second most common response is "the majority", with about a third of the students giving this estimation. We can conclude that contact hours of the courses were carried out in their entirety in all of the study programmes in most courses.

Teachers had a variety of options for delivering the ERE. Students were asked to rate the extent to which teachers used certain forms and methods of work. The results are shown in Table 6.

Table 6

Q10 Please estimate how many education professionals used the following forms of work in the execution of the course at a distance (via ZOOM, TEAMS, etc.) – not necessarily every hour.

		None	A minority	About half	The majority	All
The education professional lectured the content.	<i>f</i>	1	8	18	238	391
	%	0.2	1.2	2.7	36.3	59.6
The education professional shared slides on the screen.	<i>f</i>	3	18	53	326	256
	%	0.5	2.7	8.1	49.7	39.0
Work in groups (e.g., breakout rooms).	<i>f</i>	18	201	182	211	44
	%	2.7	30.6	27.7	32.2	6.7
During the lecture, the education professional constantly created a board image (white board).	<i>f</i>	205	340	58	46	7
	%	31.3	51.8	8.8	7.0	1.1
The education professional also offered students the possibility of writing on a white board while the course was being executed.	<i>f</i>	327	269	33	21	6
	%	49.8	41.0	5.0	3.2	0.9
The education professional also included videos, films, etc. in the distance execution.	<i>f</i>	14	202	215	196	29
	%	2.1	30.8	32.8	29.9	4.4
The education professional used surveys (polls application within ZOOM, TEAMS, etc.).	<i>f</i>	196	311	91	49	9
	%	29.9	47.4	13.9	7.5	1.4
The education professional used software applications, e.g., for drawing, 3D representations, geometry, etc.	<i>f</i>	451	171	24	7	3
	%	68.8	26.1	3.7	1.1	0.5
The education professional recorded and published recordings of lectures/exercises in an online classroom.	<i>f</i>	281	318	43	12	2
	%	42.8	48.5	6.6	1.8	0.3

The majority of the students (59.6%) report that all of the education professionals presented the content in lectures, while 36.3% report that the majority of the education professionals lectured (95.9% of the students in total). Similarly, 88.7% of the students report that all or most of the education professionals shared slides.

In two forms of work – working in groups and including videos – only a small percentage of the answers are at the extremes (none or all), while the responses falling into in each of the other three options (a minority, about half, the majority) are divided into approximately 30%.

A different pattern of answers is shown in the following items: 1) constantly creating a board image, 2) use of surveys, 3) software applications, and 4) recording and publishing recordings of lectures. In these items, 80–90% of

the students report that the education professionals did not use these forms, or that they used them to a lesser extent.

In the use of forms of work, we can nonetheless also point out items that, according to the students, were used by about half, the majority and all the education professionals, and which represent about a fifth of all of the answers. Such forms are the constant creation of a board image (16.9% of the students) and the use of surveys (22.8%).

The results show that, according to the students, most of the education professionals used “frontal work” in which they shared slides. At the same time, it can be observed that the education professionals used slightly more group work (breakout rooms) and surveys (polls), which, in our opinion, we tend to use less in lectures in lecture rooms. In these aspects, it is likely that the execution of ERE provided additional opportunities. We should point out that the education professionals started distance education in the spring of the 2019/20 academic year and were able to upgrade their execution of the educational process in the 2020/21 academic year. Differences in the use of specific forms and methods of teaching (those used to a lesser degree) are most likely also related to the content of courses in the various study programmes: some courses offer more opportunities to include a variety of forms of execution of the educational process, or even require such forms, while others demand fewer forms.

The students were further asked how they rate teachers’ ERE and indicated their agreement with each statement on a five-point scale. The results are shown in Table 7.

Table 7

Q11 Please evaluate your agreement with the statements below regarding teaching. (The items in italics in Table 7 are later grouped in the index “students’ evaluation of the quality of the implementation of teaching methods”)

	% I can't decide	% Strongly disagree	% Disagree	% Agree	% Strongly agree
1. The work methods of the education professionals in ERE differed from the work methods at the faculty.	21.2	3.0	22.5	40.6	12.7
2. <i>The education professionals adapted their work methods well to the conditions of ERE.</i>	5.6	3.1	7.6	51.2	32.5
3. <i>I had the impression that the education professionals simplified the content too much when executing courses at a distance.</i>	3.0	37.3	52.2	5.6	2.0
4. <i>The lack of computer skills of the education professionals hindered the fluency of the educational process.</i>	6.8	22.4	51.0	15.6	4.3
5. <i>The technical difficulties of work at a distance hindered the fluency of the educational process.</i>	4.8	11.1	41.1	33.9	9.1
6. <i>During ERE, the education professionals assigned us more independent work.</i>	11.6	2.6	21.0	36.4	28.3
7. <i>During ERE, the education professionals assigned us more independent study of literature.</i>	13.6	4.3	29.8	30.3	22.0

More than half of the students (53.3%) agree or completely agree that the methods of work of the education professionals during ERE differed from the methods of work at the faculty. About a quarter of the students (25.5%) disagree or completely disagree with this.

The index “students’ evaluation of the quality of the implementation of teaching methods” (the statements for this index are marked in italics in Table 8) shows that most of the students agree that the methods used were appropriate.

First-year students rate the execution of teaching methods better ($M = 3.10$, $SD = 0.51$) than students of other years ($M = 2.93$, $SD = 0.58$). The difference is statistically significant, $t(602) = 3.78$, $p < 0.001$, $d = 0.3$. The perception of first-year students may be influenced by the fact that they have not yet had an opportunity to experience face-to-face study at the faculty, whereas upper-year students have.

The students were then asked about their experience of attending teaching engagements during the ERE and how their independent study during the pandemic had been. The results are shown in Table 8.

Table 8

Q12 Please assess the extent to which the following statements about studying from home are true for you. (The items in italics in Table 8 are later grouped into the index “the circumstances of distance education are favourable for studying”.)

	% I can't decide	% Strongly disagree	% Disagree	% Agree	% Strongly agree
1. <i>The home environment (comfort of the space) in which I can follow the educational process suits me very well.</i>	3.7	3.7	12.6	35.9	44.2
2. The home environment in which I can follow the educational process does not encourage me to study.	4.4	26.8	36.2	22.0	10.5
3. The home environment (comfort of the space) encourages me to engage with other things not related to my studies during the execution of the educational process at a distance.	5.0	9.2	26.6	41.8	17.4
4. Due to fewer discussions with other students and education professionals about the content of the course, I estimate that my knowledge is less in-depth.	5.9	16.9	28.8	29.1	19.4
5. <i>I used timeslots in the timetable when there was no educational process (“holes in the timetable”) more efficiently for studying than I would have at the faculty.</i>	5.0	14.7	22.8	21.9	35.6
6. <i>During the pandemic, I was able to arrange a remote consultation with education professionals faster than if we had been at the faculty.</i>	18.4	7.5	18.4	32.5	23.1
7. The conditions during ERE reduced my interest in studying.	5.2	31.2	27.0	23.8	12.8
8. During ERE, I missed the opportunity to study in the library.	3.3	33.1	29.4	22.2	12.0
9. In the future (at a time when this would not otherwise be necessary), I would like part of the study to be carried out at a distance, as well.	7.4	18.5	13.5	23.1	37.5
10. <i>The conditions of distance learning in virtual classrooms (via ZOOM, TEAMS, etc.) allowed me to follow the educational process more effectively than at the faculty.</i>	9.4	16.6	24.1	25.3	24.7
11. <i>Re-watching the recordings of previous lectures/exercises gave me a better understanding of the content.</i>	12.8	13.3	15.2	26.6	32.2
12. <i>I compensated for my absences by watching recordings of previous lectures/exercises.</i>	11.1	29.0	26.4	20.0	13.5
13. The conditions of ERE allowed me to put less effort into my studies.	7.4	38.3	39.4	10.4	4.6
14. When studying from home, I had problems with motivation to do study tasks and learn.	3.3	18.3	24.8	25.1	28.5
15. <i>I estimate that I studied less intensively during ERE than at the faculty.</i>	13.1	16.9	28.1	26.6	15.3

The items in italics in Table 8 are positive, i.e., favourable for studying. These items have been combined into the index “the circumstances of distance education are favourable for studying”. The average value of this index is $M = 2.73$, $SD = 0.57$. The results can be interpreted as indicating that students tend to assess the circumstances of distance education more favourably.

A total of 80.1% of the students surveyed agree or completely agree that the home environment (comfort of the space) in which they can follow the educational process suits them very well. At the same time, the majority of the students (59.2%) agree or completely agree that their home environment (comfort of the space) encourages them to engage with other things not related to their studies during the execution of distance education. Some 57.5% of the students agree or completely agree that the timeslots in the timetable when there was no pedagogical process (“holes in the timetable”) were used more efficiently for studying than they would have been at the faculty. This figure undoubtedly reflects the issue of “holes” in the timetable when students are at the faculty. A total of 55.6% of the students agree or completely agree that during the pandemic they were able to arrange consultation at a distance with education professionals faster than if they had been at the faculty. Short consultations with students in various timeslots are in fact significantly more feasible at a distance, as they require less adjustment than arranging meetings at the faculty. Compared to other items in Q12, however, this is the item with the largest share of students who cannot decide (18.4%). It is possible that they either did not seek contacts with education professionals at a distance, or that they did not have meetings with them at the faculty. Although 58.2% of the students disagree or completely disagree with the statement that the conditions of ERE reduced their interest in studying, more than a third of those (36.6%) who responded reported that ERE did in fact reduce their interest in studying. It could be said that the comfort of the home study space, which suits 80.1% of students, is not reflected in interest in studying in the case of one third of the students. Only about a third the students (34.2%) agree or completely agree that they missed the possibility of studying in the library during ERE. In a certain way, this corresponds with the finding that 60.6% of the students agree or completely agree that they would like part of studying to be executed remotely in the future (at a time when this would not otherwise be necessary), as well. The majority of the students (55.4%) disagree or completely disagree that they compensated for their absences by watching recordings of lectures/exercises, which is explained by the fact that as many as 91.3% of the students reported that only a small number, or none, of the education professionals recorded and published recordings of lectures/exercises in the online classroom.

The ethics of the rules of performance and assessment

We also sought the students' views and opinions on the issues of the ethics of the rules with regard to both ERE and assessment. Firstly, Table 9 shows the students' evaluations concerning the rules, behaviour and assessment of knowledge.

Table 9

Q13 Based on your experience with the execution of distance learning, please evaluate your agreement with the following statements concerning the ethics and rules of distance education.

	% I cannot decide	% I completely disagree	% I disagree	% I agree	% I completely agree
1. I think it would be useful if there were a book of rules for executing the pedagogical process at a distance.	16.7	3.7	9.7	41.2	28.7
2. When executing the pedagogical process at a distance, the education professionals provided sufficiently precise rules of behaviour.	7.4	3.7	17.3	49.3	22.3
3. In distance learning, I like the fact that education professionals can address students by name.	12.8	2.9	5.2	45.0	34.0
4. The rules for executing the pedagogical process at a distance varied greatly between education professionals, making it difficult to adapt to different requirements.	6.2	11.7	40.0	26.6	15.5
5. When executing the pedagogical process at a distance, education professionals were a good example to us with their behaviour.	8.7	2.7	6.4	59.6	22.5
6. When assessing our knowledge at a distance, education professionals followed the rules that they had provided for implementation.	8.0	0.8	7.2	49.3	34.8
7. Education professionals were objective when assessing knowledge at a distance.	12.4	1.7	6.4	52.0	27.4
8. When assessing knowledge at a distance, education professionals took into account possible technical difficulties.	9.7	3.5	12.0	46.8	28.0
9. When assessing knowledge at a distance, education professionals were able to detect and take into account differences in students' knowledge.	27.0	4.7	12.0	41.7	14.6
10. Taking exams at a distance allowed copying or other forms of cheating.	13.2	20.2	32.6	26.4	7.6

	% I cannot decide	% I completely disagree	% I disagree	% I agree	% I completely agree
11. Due to the conditions in conducting exams at a distance, which allowed copying or other forms of cheating, it was rational for students to make use of these possibilities.	17.9	22.5	32.2	21.6	5.8
12. I took exams at a distance where it was not possible to copy/cheat at all.	6.4	2.7	12.0	32.6	46.2
13. I had the impression that the education professionals used stricter criteria for assessing knowledge when conducting exams at a distance.	18.8	5.6	28.0	25.2	22.3
14. I studied less for exams at a distance because I anticipated that it would be possible to copy/cheat during the exam.	4.1	55.9	32.8	6.0	1.2
15. During certain exams, I was under stress due to the demanding technical conditions of implementation that were set in order to prevent copying/cheating during the exam.	4.3	9.7	17.5	27.4	41.2
16. The extensive control measures to prevent copying/cheating in exams were humiliating for me.	10.3	19.2	35.1	21.6	13.8
17. My principle is not to copy/cheat in exams, so I passed all of the exams at a distance honestly.	6.8	1.2	13.6	32.2	46.2
18. I estimate that I did as well in the exams at a distance as I would have if the exams had been held at the faculty.	12.8	3.9	15.0	37.1	31.3

About 70% of the students surveyed agree or completely agree that it would be useful if there were a book of rules for the execution of distance education, despite the fact that approximately the same percentage say that the education professionals provided sufficiently precise rules of conduct in the execution of distance education. Almost 80% of the students agree or completely agree with the statement that they liked the fact that the education professionals could address them by name during distance education. This is certainly a specific feature of the environment of working at a distance, as the individual enters the online environment with his/her name displayed next to his/her image.

Some 51.7% of the students disagree or completely disagree with the statement that the rules for the execution of distance education differed greatly between the education professionals, making it difficult to adapt to different requirements. This result is interesting given the fact that most of the students agreed that it would be useful if there were rules for the execution of distance education.

Between 80 and 85% of the students agree or completely agree with the statement that the education professionals were good role models in their

execution of distance education, and that they followed the rules they had provided for conducting assessment of knowledge at a distance.

It is interesting to note that 14.8% of the students disagree or completely disagree with the statement “My principle is not to copy/cheat in exams, so I passed all of the exams at a distance honestly”, while 6.8% of students cannot decide regarding this statement.

With regard to the performance in examinations during the ERE, we were first interested in how the students rate their performance in distance examinations compared to their performance in pre-pandemic examinations. To question Q14 *Please indicate what kind of grades you received on average in exams conducted at a distance* (compared to exams not conducted at a distance), they answered: on average higher 13.0%, on average the same 70.1%, on average lower 16.9%.

Next, we wanted to find out in more detail the extent to which the students agree with each of the statements about taking exams during the ERE. The results are shown in Table 10.

Table 10

Q15 *Based on your experience with the execution of distance learning, please evaluate your agreement with the following statements concerning the assessment of knowledge.*

	% I cannot decide	% I completely disagree	% I disagree	% I agree	% I completely agree
1. In exams at a distance, essay-type questions were technically demanding because I had to photograph/scan the product and send it to the education professional on time.	14.4	14.4	27.0	25.3	18.9
2. In exams at a distance, multichoice questions required the demonstration of complex knowledge.	17.9	3.1	15.6	43.0	20.4
3. In exams at a distance, I had the impression that the education professionals had given a lot of thought to the organisation of the exam.	8.6	2.3	10.9	50.0	28.2
4. In exams at a distance, the education professionals clearly presented the criteria for assessing knowledge.	9.3	5.6	15.4	44.4	25.3
5. I had a lot of technical problems when taking exams at a distance.	4.1	23.7	54.3	14.6	3.3

Some 21% of the students disagree or completely disagree that the education professionals did not present the criteria for assessing knowledge clearly,

while 17.9% had a lot of technical problems when taking exams at a distance.

A total of 44.2% of the students reported that essay-type questions in the exam were technically demanding because they had to photograph/scan the product and send it to the education professional on time.

The correlation between the results of the statement “I had a lot of technical problems when taking exams at a distance” and the students’ answers regarding the average grade achieved in distance exams (Q14) compared to non-distance exams is negative and statistically significant ($r = -0.14$, $p = 0.02$). Since the majority of the students (78%) did not have technical problems, this was not reflected in lower average grades.

The academic community

A university is an academic community that works in a cohesive way. As this was absent during the ERE, we were interested in the students’ views on the circumstances of the pandemic in terms of the disrupted (or, for first-year students, difficult to establish) academic connectedness. The results are shown in Table 11.

Table 11

Q16 Based on your experience of distance learning, please evaluate your agreement with the following statements. (the statements are listed according to the students’ degree of agreement, from 4 – I completely agree to 1 – I completely disagree)

	M	SD
1. During ERE, I missed informal socialising with students.	3.48	0.83
2. The teaching profession requires the development of knowledge and skills in direct interactions with others, which I missed during ERE.	3.19	0.86
3. During ERE, I missed live study-related cooperation with other students (talks, joint preparation of projects, seminars, etc.).	3.09	0.96
4. During ERE, I missed the kind of interactions with education professionals that can occur in direct contact while studying at the faculty.	2.85	0.94
5. During ERE, I had more contact with education professionals via the internet than I would have had at the faculty.	2.42	0.91
6. Because we can communicate and collaborate with other students through social networks, I did not miss contacts with students at the faculty during the pandemic.	2.09	1.00

The students agree or completely agree ($M = 3.48$, $SD = 0.83$) that they missed informal socialising with other students during ERE, and that the

teaching profession requires the development of knowledge and skills in direct interactions with others, which they missed during ERE ($M = 3.19$, $SD = 0.86$). Similarly, but with slightly lower values, they agree or completely agree that during ERE they missed live study-related cooperation with other students (talks, joint preparation of projects, seminars, etc.) ($M = 3.09$, $SD = 0.96$) and interactions with education professionals that can occur in direct contact while studying at the faculty ($M = 2.85$, $SD = 0.94$).

The results show that most of the students miss the academic community, despite the fact that about half of them state that they would like to have part of their studies via distance education in the future, as well.

In responding to the statement (Q17) *Compared to the cooperative relationship between students at the faculty, the cooperative relationship between students during the period of distance learning was (worse/unchanged/better)*, 34.8% of the students said they were worse, 43.6% said they were unchanged and 21.6% said they were better.

Unlike Q17, Q18 asked students to compare the relationships between teachers and students before and during ERE. Q18: *Compared to the cooperative relationship between students and education professionals at the faculty, the cooperative relationship between students and education professionals during the period of distance learning was (worse/unchanged/better)*. Some 23.3% of the students state that the relationship during ERE was worse than before, while 51.0% believe it was unchanged and 25.7% claim it was better.

A slightly different picture is revealed by the data on the cooperative relationship between education professionals and students in comparison to the data on the cooperative relationship between students. Compared to Q17, in Q18 a higher percentage of the students judged that the cooperative relationship between students and education professionals was unchanged (in Q17 the percentage was 43.6%, while in Q18 it was 51.0%). The answers to Q18 indicate that the levels of perception of a better or worse relationship between students and teachers are almost the same (worse 23.3%, better 25.7%).

Discussion

In line with the analysis of the research mentioned above in the introduction, the present research confirms that one of the important aspects of educational justice for students is the provision of equal material conditions for their studies. The correlation between the material conditions for studying and the assessment of knowledge attainment shows that the success of students in their studies depends on the appropriate technical conditions and environment.

Students were in a rather unequal position regarding these conditions, which are beyond the control of the faculty. The living conditions of students during the pandemic were worse than before the pandemic for more than a quarter of the students surveyed, while just over a third of the students also agreed that the fact that they could not undertake student work had a negative impact on their studies.

The unequal study conditions for students, over which the faculty has no influence, were also represented by access to the internet during the ERE. Over one fifth of the students in the present study had good access to the internet for only half of the time or for less than half of the time during the ERE. This is not insignificant, as the index “technical conditions for studying” has been shown to be statistically significantly related to students’ assessment of the knowledge acquired (the better the index for technical conditions, the better the students’ self-assessment of the knowledge acquired). The association between adequate conditions for studying and students’ self-assessment of the knowledge acquired is also statistically significant.

Around one fifth of the students who moved from their temporary place of residence (in a student dormitory in Ljubljana, in a sublet apartment, etc.) to their home during the ERE would later have problems both with renting space at the place of study and with partly used transport tickets in a hybrid model (partly on-campus, partly at a distance). From these results we can conclude that rapid transitions from one type of a study to another (from ERE to hybrid or entirely faculty-based education) is not recommended, as rapid changes put a large proportion of students in an unequal position, or even prevent them from following the study process.

In establishing equal starting material conditions that can be influenced by the faculty, we would highlight access to literature and rules for the implementation of the teaching process during ERE. Slightly less than half of the students surveyed stated that they had access to literature only half of the time or less than half of the time during the ERE. The reasons for this may be different. It is possible that teachers did not make extra arrangements for the materials to be available electronically, but the result may also suggest that a certain proportion of students were not adequately familiarised with the possibility of using library services remotely before the pandemic.

In order to ensure the quality of the teaching process, it would be useful to introduce a policy for the implementation of the teaching process during an ERE period at the faculty level. Around 70% of the students surveyed agree that it would be useful to have a book of rules for the implementation of ERE. Given the abruptness of the transition to ERE, the initial solution of leaving the

implementation to the autonomy of the teachers was justified. In the second year of the pandemic, however, it would probably have been possible to establish some uniform rules or to recommend that teachers establish minimum general rules that would set expectations and ensure consistency of action and equality of conditions for the students.

In general, the results of the ERE teaching programmes showed that the study process was continued during the pandemic and that students were adequately informed about the distance learning process. The results shown in Tables 7 and 8 generally confirm that the delivery of the pedagogical process was based on the concept of face-to-face delivery and was partly adapted to different conditions on this basis.

The students surveyed expressed the opinion that teachers used appropriate methods and forms of work. This would be expected from higher education professionals teaching prospective teachers. It can be assumed that “appropriateness” has an additional assumption. i.e., appropriate “under the given conditions”. One limitation of the present research is that the data on students’ satisfaction with the delivery of the process and the use of pedagogical approaches do not provide sufficiently complex insights to draw specific conclusions about quality or to argue that any of the possible approaches should be used either more or less. The use of a particular pedagogical approach depends on the content and other circumstances, individual courses and programmes are not in equal positions, and the delivery of material – including lectures – may be more or less intellectually demanding. For example, the conclusion reached by the authors of one study, “that the online lectures contributed the most to the students’ competence development but were not perceived as very demanding” (Gradišek & Polak, 2021), suggests that the lectures were delivered in such a way that students perceived them as not demanding. It does not follow, however, that students generally find lectures undemanding due to the fact that they are supposed to be “passive” in their use of the lecture format, as the authors might be understood to suggest.

The results of the present survey show that the propaganda slogans used to advertise distance learning (“Earn a college degree in your pyjamas!”, etc.), when viewed purely from the point of view of “selling” the programme to the student, do not unreasonably target the pleasure principle as a human characteristic, which also played an important role in the case of ERE. The results show that the desire for pleasure has a role in judging the quality and fairness of delivery. This was also reflected, for example, in the results concerning the remote administration of examinations. In the aforementioned study (Gradišek & Polak, 2021), the students surveyed mostly agreed with statements describing

situations that do not require extra effort on their part: comfortable clothes, wasting time driving to the college, repeating the exam content until the very beginning of the exam, no other people present in the room I have chosen. The least positive assessment (most students rated the impact as neutral) pertained to remote exams and the teacher's supervision during the exam via camera and microphone. From these results, it might be hastily concluded that students are comfortable with remote exams, but the present research reveals certain factors that caused students stress when taking exams remotely, i.e., the difficulties associated with accessing the internet, technical equipment, exam delivery and typing skills. It is possible that students are comfortable with the comforts of home and deciding on certain exam conditions, but not with all aspects of remote exams.

The comfort of the home study space suits 80.1% of the students surveyed, but the majority (59.2%) also agree or completely agree that their home environment (comfort of the space) encourages them to engage with other things not related to their studies during the execution of ERE, and more than a third of those who responded (36.6%) reported that ERE reduced their interest in studying. The comfort of the home study space is not reflected in interest in studying in the case of one third of the students. The majority of the students (55.4%) disagree or completely disagree that they compensated for their absences by watching recordings of lectures/exercises, which is explained by the fact that as many as 91.3% of the students reported that only a small number, or none, of the education professionals recorded and published recordings of lectures/exercises in the online classroom. However, 60.6% of the students agree or completely agree that they would like part of studying to be executed remotely in the future (at a time when this would not otherwise be necessary), as well.

The formation of an academic community is impeded in ERE and students missed informal socialising with other students. Moreover, the teaching profession requires the development of knowledge and skills in direct interactions with others, which students also missed during ERE. Similarly, but with slightly lower values, the students surveyed agree or completely agree that during ERE they missed live study-related cooperation with other students (talks, joint preparation of projects, seminars, etc.) and interactions with education professionals that can occur in direct contact while studying at the faculty.

Regarding access to literature, just under half of the students surveyed stated that they had access to literature half or less than half of the time during the ERE. This may indicate that a certain proportion of students neglected the possibility of using electronic resources or did not pay as much attention to it

before the ERE because the teaching process accustomed them to using non-electronic resources. The results in this regard would probably have been better if teachers had accustomed students more to using the electronic services offered by the library even under normal conditions. The faculty could take a step forward in this direction.

The pandemic period highlighted the difficulties encountered by students while studying under ERE conditions, as well as the wider problems of modern university study. One study (Žerak et al., 2021) found that “the most constructive of the learning strategies was found to be the goal-setting strategy. This finding points to the suggestion that higher education teachers and colleagues could further encourage students to set goals in distance learning by assigning more ongoing, shorter and appropriately challenging assignments or study activities” (p. 246). This finding can be understood in several ways. The first way of understanding the need for more online, shorter and appropriately challenging assignments or study activities is that, compared to the usual face-to-face delivery, studying from home is more demanding for students because they are left more to their own devices, discipline and organisation. It follows that during ERE, higher education teachers should adapt quickly and introduce a greater degree of supervision and step-by-step guidance into the study process. Another possible reason for a strategy of a higher degree of ongoing guidance (especially for students enrolled in the first year during the pandemic period) could be the high enrolment in university degree programmes and the consequent enrolment of students who are less qualified to study, which results in a need for more ongoing support and guidance. The first reason – that ERE requires students to have a greater degree of autonomy than undertaking their studies at university – may be compounded by a third reason, namely, that even potentially successful students are less prepared for autonomous study and learning by pre-university education. The ERE period revealed an issue for the post-pandemic era: since university studies are in any case characterised by greater student autonomy in the study process compared to secondary schools, this would imply that university studies should approach student management in ways that are typical of secondary schools. But how encouraging would this change in university study be for those students who expect and rightly want a greater degree of autonomy?

Conclusion

The present research has revealed certain opportunities for online teaching that were not available before ERE, or that are primarily made possible by ERE. Among them are the possibility of remote consultations (the students in our study stated that it was easier to contact teachers to resolve certain issues and that this could be done more frequently; this individual form of work could be further developed in individual cases); addressing students by their first names, which is enabled by the software environment (this was highlighted by students as an important and desirable factor, but it is much more difficult, if not impossible, in face-to-face lectures with a large number of students); and the usefulness of filling in time between “gaps in the timetable” (although this is really up to each individual student). It can be assumed that in online lectures we should always think about how to exploit the possibilities offered by software tools, since various distractions make it more difficult for students to follow the lecture than in face-to-face conditions. But how can we prevent or eliminate the distractions and obstacles caused by the conditions of studying from home in the face-to-face learning process?

The apparent paradoxes in the results of the present research (e.g., most of the students miss the academic community, but about half of them state that they would like to have part of their studies via distance education in the future, as well, etc.) can be explained by a clash of incompatible values. In the ERE era, there was a fundamental ethical conflict between the criteria of quality assurance and justice in the delivery of study programmes, on the one hand, and the desire for pleasure, on the other. Although students want to be comfortable in their studies, they also want to have direct social contact with other students, but it is not possible to have both at the same time. In this perspective, which is clearly present, the advantage of ERE is precisely the provision of comfort. But is this benefit really a benefit? From the point of view of a public higher education institution (HEI), the primary value must be the quality of the education it provides. Therefore, if an HEI had to choose between the students’ (or teachers’) desire for comfort, on the one hand, and the provision of an academic community and quality, on the other, the professional decision would be to facilitate the latter and face-to-face delivery, even at the cost of giving up the comforts of the home environment.

While the implementation of the teaching process in a faculty cannot erase all of the social differences that determine the lives of students (whether they support them or not), studying in faculty premises can take place on equal terms for all students. Irrespective of social differences, it can ensure equity

in the face-to-face study process, while also making face-to-face teaching between teachers and students of paramount importance for pedagogical study programmes.

For higher education teachers, a pressing and real question now, and a possible research question for future research, is what knowledge was attained by students in the pandemic period. However, based on the values of our professional ethical judgement and the results of the present study, we conclude that higher education teachers should be aware that providing comfort to some students who have the appropriate conditions for studying, or simply preferring to teach from the comfort of home, are not adequate reasons to maintain online delivery of courses compared to the criteria of justice and quality in education.

References

- Anderson, L. W. (2021). Schooling interrupted: Educating children and youth in the Covid-19 era. *Center for Educational Policy Studies Journal*, 11(Special Issue), 17-38. <https://doi.org/10.26529/cepsj.1128>
- Cohen, L., Manion, L., & Morrison, K. (2011). *Research methods in education*. 7th Edition. Routledge.
- Gradišek, P., & Polak, A. (2021). Insights into learning and examination experience of higher education students during the Covid-19 pandemic. *Sodobna pedagogika*, 72(138), 286-307.
- Harting, K., & Erthal, M. (2005). History of distance learning. *Information Technology, Learning and Performance Journal*, 23, 35-44.
- Hodges, C., Moore, S., Lockee, B., Trust, T., & Bond, A. (2023, February 12). *The difference between emergency remote teaching and online learning*. <https://er.educause.edu/articles/2020/3/the-difference-between-emergency-remote-teaching-and-online-learning>
- Hodnik, T., & Krek, J. (2023). Emergency remote teaching during the Covid-19 pandemic: Ethical dilemmas and research results from the perspective of the foundations of teacher education study programmes. In G. Stoković, J. Lukić, J. Stanivuković (eds.). *International scientific conference Education During the Covid-19 Pandemic: Experience and Lessons Learned: Book of abstracts* (pp. 108-109). University of Belgrade Teacher Education Faculty, Beograd.
- Hodnik, T., Krek, J., Podlogar, N., & Vogrinc, J. (2021). Quality and ethical dilemmas in the education of future teachers under the conditions of distance education. In *Challenges of distance teaching in teacher education and education: [Abstracts] and programme* (p. 2). University of Ljubljana Faculty of Education, Ljubljana.
- Hume, D. (2006 [1748]). *An enquiry concerning human understanding: A critical edition*. Clarendon Press.
- Karataş, F. Ö, Akaygün, S., Çelik, S., Kokoç, M., & Nur Yılmaz, S. (2021). Challenge accepted: Experiences of Turkish faculty members at the time of emergency remote teaching. *Center for Educational Policy Studies Journal*, 11(Special Issue), 141-163. <https://doi.org/10.26529/cepsj.11.Sp.Issue>

- Kodelja, Z. (2006). *O pravičnosti v izobraževanju [On justice in education]*. Krtina.
- Korhonen, T., Juurola, L., Salo, L., & Airaksinen (2021). Digitisation or digitalisation: Diverse practices of the distance education period in Finland. *Center for Educational Policy Studies Journal*, 11(Special Issue), 165-193. <https://doi.org/10.26529/cepsj.1125>
- Krek, J., Hodnik, T., Podlogar, N., & Vogrinc, J. (2021). Education of future teachers under the conditions of distance education. In A. Beka (ed.). *Kosovo International Conference on Educational Research KICER: Book of abstracts* (p. 51). University of Prishtina Faculty of Education, Prishtina.
- Loveless, B. (2023, February 12). *Distance learning: The ultimate guide to online learning*. <https://www.educationcorner.com/distance-learning/distance-online-learning-guide.html>
- Mäkipää, T., Hahl, K., & Luodonpää-Manni, M. (2021). Teachers' perceptions of assessment and feedback practices in Finland's foreign language classes during the Covid-19 Pandemic. *Center for Educational Policy Studies Journal*, 11(Special Issue), 219-240. <https://doi.org/10.26529/cepsj.1108>
- Plevnik, M. (2021). The challenges of conducting practical exercises in the scope of an adapted educational process in higher education institutions during the Covid-19 epidemic. *Sodobna Pedagogika*, 72(138), 308-320.
- Podlesek, A., Kavčič, V. (2021). Generalised anxiety in Slovenian university students during the Covid-19 pandemic. *Sodobna pedagogika*, 72(138), 322-341.
- Šimenc, M. (2021). Vloga tehnologije v vzgoji in izobraževanju ter enake možnosti učencev v obdobju pandemije [The role of technology in education and equal opportunities for students in the Covid-19 crisis]. *Sodobna pedagogika*, 72(138), 12-26.
- Unver, E., & Sungur, A. (2022) Distance learning under the Covid-19 conditions within architectural education. *Center for Educational Policy Studies Journal*, 12(3), 191-219.
- Žerak, U., Podlogar, N., Lišič, A., Lavrih, L., Fricelj, N., & Juriševič, M. (2021). Značilnosti učne samoregulacije študentov pri študiju na daljavo med epidemijo covid-19 [Characteristics of students' learning self-regulation in distance learning during the Covid-19 epidemic]. *Sodobna pedagogika*, 72(138), 234-251.

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