STUDENTS' EXPERIENCES AND VIEWS OF ONLINE TEACHING AND LEARNING IN HIGHER EDUCATION

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Abstract: The Covid-19 pandemic has largely affected the educational process in higher educational institutions across the world and caused a rapid shift to online teaching and learning. Striving to respond to the challenges of providing safety for students and teachers and ensuring continuity of education, the majority of university teachers in Macedonia have been closed for almost two years and for this time they have been shutting down the classroom teaching and embracing digital academic experience.

In this paper we surveyed students' experiences and opinions about online teaching in Macedonian higher education. We conducted two online surveys, first survey in the summer semester of the academic year 2020/2021 and we repeated second survey in 2021/22. Both surveys included students from two higher education institutions that prepare pedagogues, elementary school teachers and educators in preschool institutions: the Institute of Pedagogy (IP) at the Faculty of Philosophy, UKIM in Skopje and the Faculty of Educational Sciences (FES) at the Goce Delcev University in Shtip.

The research is based on empirical and qualitative data obtained by a questionnaire that was electronically distributed and completed by a selected sample of students (88 students in 2021 and 105 students in 2022). The survey questions of different type are focused on several issues: student access to digital equipment and their computer skills, student interest to attend online classes, quality of delivery of online instruction, communication with teachers, benefits and weaknesses of online teaching, effectiveness of online learning. The analysis employs both quantitative and qualitative approach to study the perceptions of students, and the findings are shown by narrative description, tables and graphs. They are expected to give an insight into the students' needs by identifying their perspective on the quality of ongoing online academic activities, as well as to contribute to better understanding of the challenges facing university teaching and learning today.

Key words: Student views of teaching, Online teaching and learning, Higher education.

Introduction

Education during the Covid 19 pandemic has changed significantly worldwide. Like other spheres of social activity, from the end of 2019 in the next two years, the education also was accomplished in extraordinary conditions of restrictions, isolation and physical distancing. Teaching and learning, which by their very nature are processes of interaction and direct communication, have undergone major changes in relation to the setting and the way in which they were realized: educational institutions were closed and physical presence was replaced by electronic communication. According to UNESCO data, by the end of April 2020, as many as 186 countries in the world had closed schools, which changed the lives of approximately 74% of the total number of students on Earth. (UNESCO. Education: from school closure to recovery). Teaching stopped taking place in the classroom and moved to online teaching, e-learning or distance learning, as *„a way to allow students to take online courses on various online platforms and to access a wide array of digital learning tools and resources"(Zhao, Wu, & Kong, Guidance for Students 2020:8).*

The emergence of the Pandemic has largely displaced the normal functioning of higher education institutions. About 220 million students worldwide have been affected by the disruption of in-person classes (Farnellet al, 2021). The doors of the universities were closed and in a short time various digital platforms were introduced that allowed teachers to hold online classes and attend webinars and online conferences. This is also shown by the research results, according to which 85% of higher education institutions in Europe switched to online teaching, while 12 % of higher education institutions were developing solution (as cited in Farnell et al, 2021, p. 22). The impact of the Pandemic was felt not only in terms of teaching and learning, but also in terms of research work and the possibilities for its implementation and presentation, as well as on the mobility of students and teaching staff. Finall, the impact that the Pandemic had on social dimension of higher education, the effect on underrepresented, vulnerable and disadvantaged learners, was also pronounced and worrisome (Farnellet al, 2021).

The transfer of teaching from the classroom to the online space required adaptation of work materials, work methods and techniques. However, the time limit that higher education institutions had for the transition to online teaching was really short and did not allow for radical changes. In the UNESCO report (IESALC report, COVID 19 and higher education: Today and tomorrow. Impact anlysis, policy responces and recommendations) the term „emergency remote teaching" is used, which means transforming classes with physical presence to online classes, but without changing the curriculum or methodology (UNESCO. IESALC, 2020). In fact, given the time limit and the lack of training for online teaching, the necessary infrastructural support of online teaching was not provided, so it mainly represented an improvised adaptation of the contents ready to be implemented in the classroom. (Farnell et al, 2021, p. 22; Bryson&Andres, 2020; Turnbull; Chugh; Luck, 2021; Littlejohn, et al, 2021; Madhuwanthi et al, 2021). Precisely because of these

disadvantages, some universities later opted for the so-called a hybrid model of teaching and learning, as a combination of online teaching and teaching with the physical presence of a smaller number of students who were distributed in the classroom at a distance of 1.5m (Verde & Valero, 2021, p. 10-11).

The Macedonian educational system also faced the complete closure of educational institutions and the transition to online teaching. Even before the outbreak of the Pandemic, the educational institutions in Macedonia had taken reform steps in the direction of digitization of numerous segments in their operations, such as: electronic books for students achievements in primary and secondary schools, e-indexes in higher education, electronic communication, video-conferences between researchers (MES, 2021; UGD, 2021; UKIM, iKNOW system). However, the state of emergency caused by the pandemic imposed the need for a complete reorganization of the work of all participants in the educational process. In higher education, all ongoing activities with students in the academic year (lectures, exercises, colloquiums, exams, consultations, practical teaching) had to be carried out electronically, for which several conditions were necessary: a solid material and technical basis, support from the faculties , local and state educational authorities, readiness of teachers and students to implement online teaching (Zhao, Wu, & Hua, Guidance for Principals and Administrators, 2020:23; Zhao, Wu& Liu, Guidance for Teachers,2020:8; *Zhao, Wu, & Kong, Guidance for Students 2020:11-16;* Zhao, Wu, & Hua, Guidance for Principals and Administrators, 2020:10). In the conditions of a rapid and unexpected transition to online teaching, Macedonian higher education faced serious challenges and numerous open questions: how well the faculties are technically prepared to respond to online teaching (since both teachers and students have to work from home) and enable proper virtual learning environments; were all university teachers ready to accept alternative methods of delivering teaching and learning and were they digitally competent to implement them; how to implement practical teaching that could not be implemented in the field (in kindergartens, schools...); how to help those students who are vulnerable and in need, who come from a socially deprived environment and do not have access to digital means and internet communication.

In order to get an answer to some of these questions, seen from a student perspective, we examined the opinions and attitudes of students about the implemented online teaching in some of the higher education institutions in Macedonia that prepare teachers.

Methodology

The survey of students' experiences and opinions about online teaching in Macedonian higher education was conducted on two occasions, in the summer semester of the academic years 2020/2021 and 2021/22.. Both surveys included students from two higher education institutions that prepare pedagogues, elementary school teachers and educators in preschool institutions: the Institute of Pedagogy (IP) at the Faculty of Philosophy, UKIM in Skopje and the Faculty of Educational Sciences (FES) at the Goce Delcev University in Shtip. In the period April-May 2021, an online survey was conducted among 88 students from the two institutions, namely: 49 students (55.7%) from FES Shtip (from the three study programs Elementary school teachers, Preschool teachers and Pedagogy) and 39 students (44.3%) from The Institute of Pedagogy in Skopje. Given that online teaching started the previous year (2020), students already had the opportunity to experience the new model of teaching for a longer period of time and form their own opinion about its progress and quality.

Online teaching continued to be implemented as a single model or as a combined teaching or hybrid model (online teaching and teaching with physical presence) in the next academic year 2021/22. Precisely because of its prolonged development, we repeated the research one year later (April-May 2022), this time among 105 students from the same two institutions, namely: 54 students (51.4%) from FES Shtip (from the three study programs Elementary School Teachers, Preschool Teachers and Pedagogy) and 51 students (48.6%) from the Institute of Pedagogy in Skopje. Table 1 provides an overview of the research sample in the two surveys.

Table 1. Number of respondents

	April -May 2021		April - May 2022	
	f	%	F	%
Institute of Pedagogy Skopje	39	44,30%	51	48,6%
Faculty of Educational Sciences Stip	49	55,7%	54	51,4%
	88	100,00%	105	100,0%

The questions in the questionnaire were divided into five parts: general data about the students; access to digital equipment and computer skills; interest in pursuing online teaching; quality and efficiency of online teaching and learning; benefits and weaknesses of online teaching. Most of the questions were of a closed type, but there were also questions that allowed the students to formulate their answers independently. The obtained data were analyzed using quantitative and qualitative research methods.

RESULTS AND DISCUSSION

The largest number of students who choose the profession of preschool teacher, elementary school teacher and pedagogue are female, and that is why the sample has a predominance of female students (2021 year 82 female respondents and 6 male respondents; 2022 year 101 female respondents and 4 male respondents) (Chart 1).
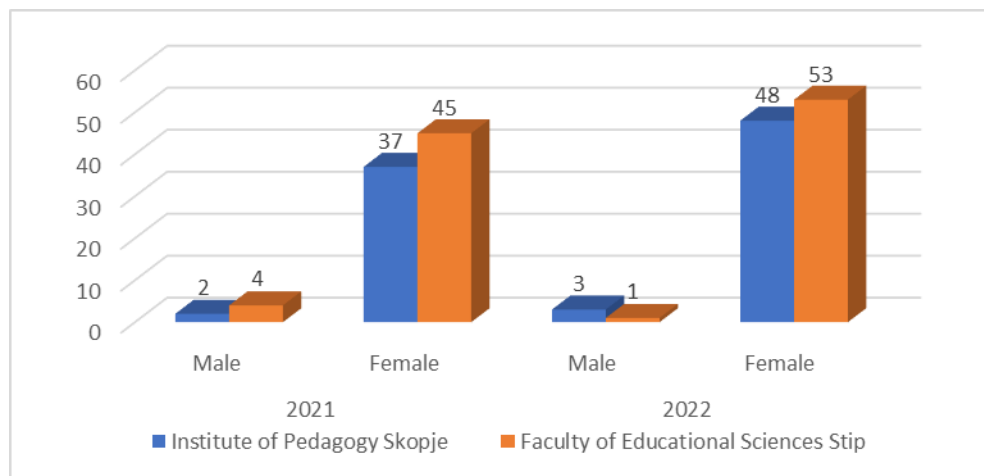

Chart 1. Number of students by gender

Respondents from the four years of study were included in both surveys (Chart 2 и Chart3). In the 2021 survey, first-year students had already spent one semester in online teaching, so they had the opportunity to share that experience in this survey, while the rest of the upper-year students had a minimum of one year of online teaching experience.
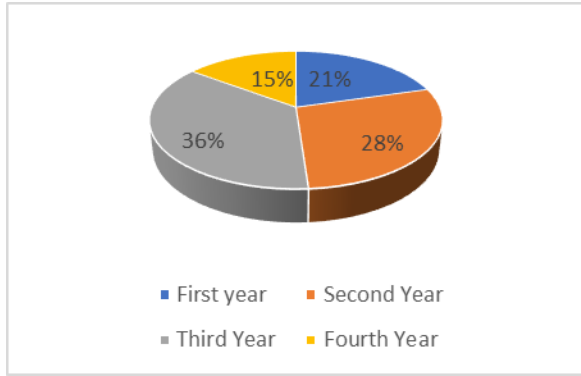
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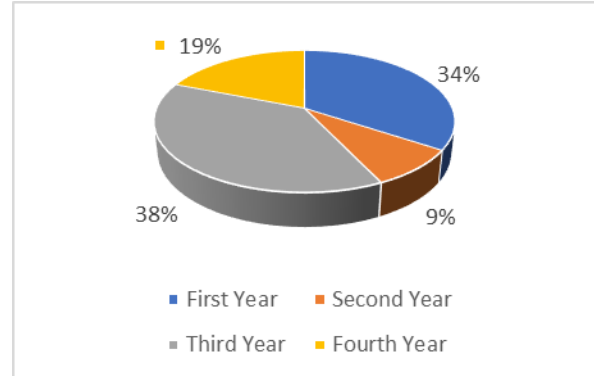**Chart 2.** Students in their study year in 2021

Chart 3. Students in their study year in 2022

Regarding the place of residence of the students during the online teaching (either in their place of residence or in the city where their faculty is located, of course, for some it may be the same place), most of the students of the Institute of pedagogy during the online teaching lived in Skopje, and the smallest part in the countryside. Of the surveyed students from FES Shtip, most of them lived in another city during the online teaching (they did not live in Shtip, where the faculty is located), and the percentage of students who lived in the countryside is also not small. (29,63%) (Chart 4).
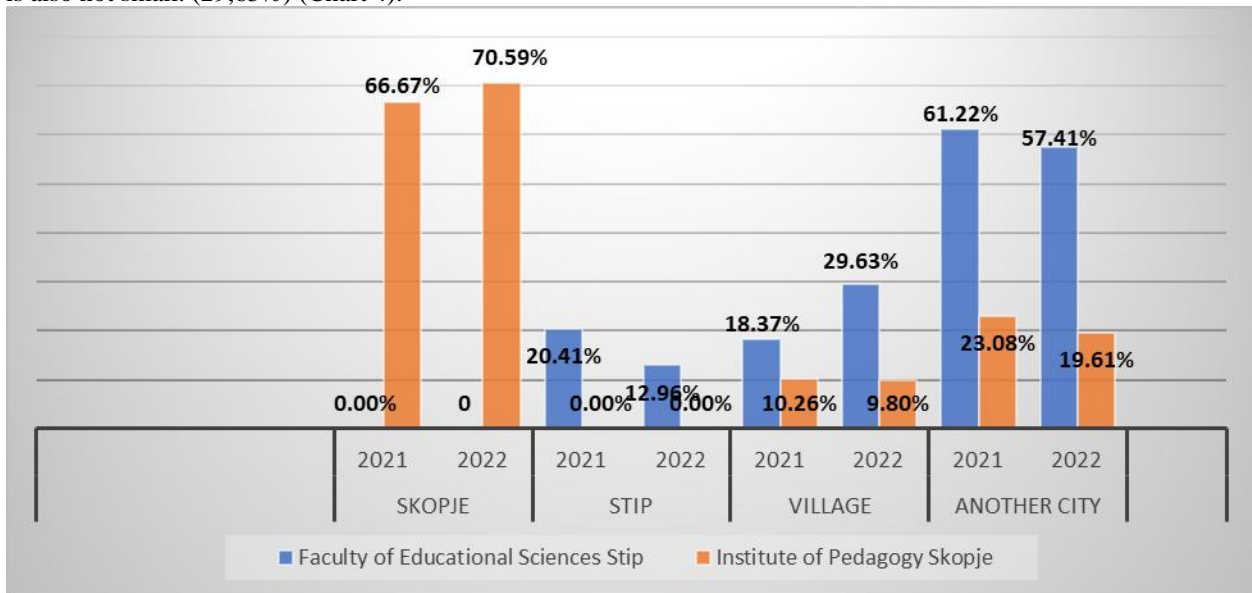

Chart 4. Place of residence during online teaching

These informations will be important to determine the connection and conditionality with the availability and use of the digital equipment needed to follow the online teaching by the students (for example, if the students do not have access to a computer or the Internet due to the place of residence).

Students' access to digital equipment and their computer skills

Most of the students pointed out that they used both a computer and a smartphone to follow the online teaching (Chart 5). This data shows us that 79% of the students had the opportunity to follow the teaching smoothly at any moment due to the availability of both devices. Both institutions have the lowest number of students who only use a smartphone to follow online classes.
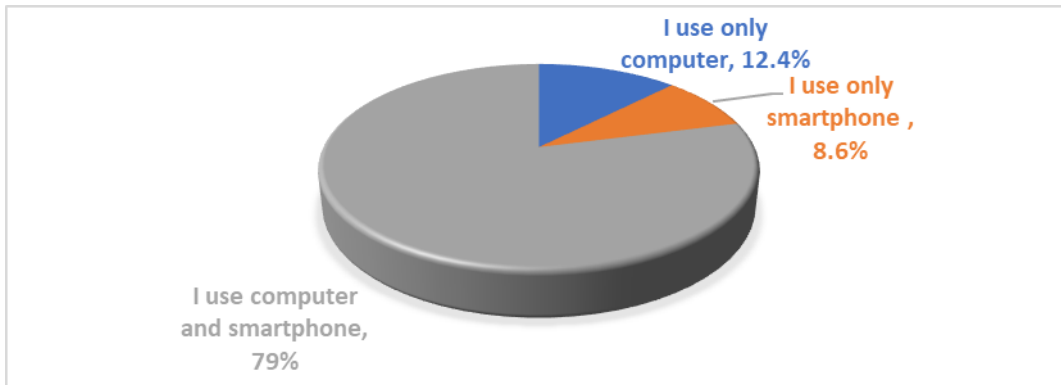
Chart 5. How students follow online classes

Ever since the online teaching started, most of the students had access to digital equipment (computer and internet). smaller number of students had access to a smartphone and the Internet, while 2 students from the Institute of Pedagogy in Skopje and 4 students from FES Shtip only had access to a smartphone, without access to the Internet, and one student from the Institute of Pedagogy in Skopje had access only with a computer.

From the students' responses, we noticed that there was no connection between the student's place of residence during the online teaching and what digital equipment they had access to when the online teaching started. Namely, in the group of students who pointed out that when the online teaching started, they only had access to a smartphone, there are students from Shtip and Skopje, and from other cities and countryside.

What we were particularly interested in was whether the provision of the necessary digital equipment for monitoring the online teaching was a financial burden for the students. The majority of students did not have a financial burden regarding this issue, but the results show that the percentage of students (24%) who pointed out that they had financial difficulty to provide the necessary digital equipment to be able to follow online classes should not be neglected. (Chart 6).
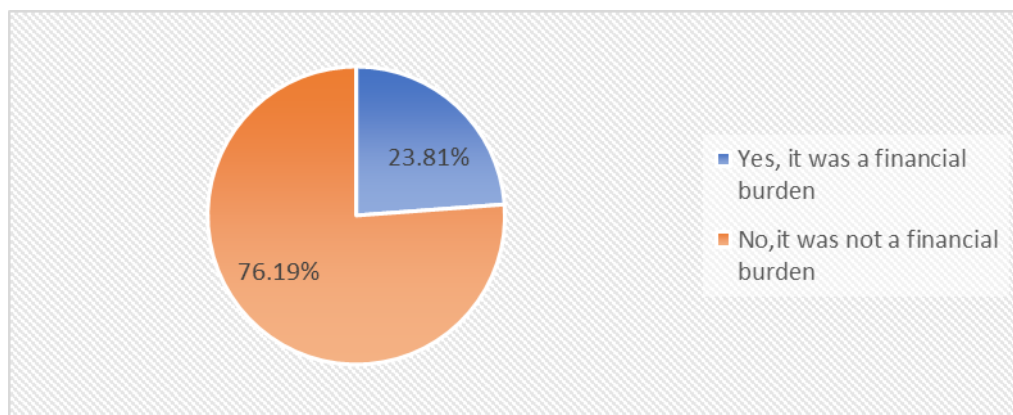

Chart 6. Financial burden to provide digital equipment

For active monitoring and participation in online teaching, the computer skills of the students are of great importance. Therefore, in the research we wanted to see what computer skills the students had at the very beginning of the implementation of the online teaching in 2020 and at the time of the implementation of the research in 2021 or 2022.

A greater number of students from both institutions stated that at the very beginning of the online teaching they were able to follow the online classes (in terms of their computer skills), but there was not a small number of students who needed help at the beginning (Chart 7). However, the results of the two charts (Chart 7 and Chart 8) show that the percentage of students who need help to follow and participate in online classes has significantly

decreased after one or two years of participation in online classes (from 26.7% the number of students decreased to 6.5%).
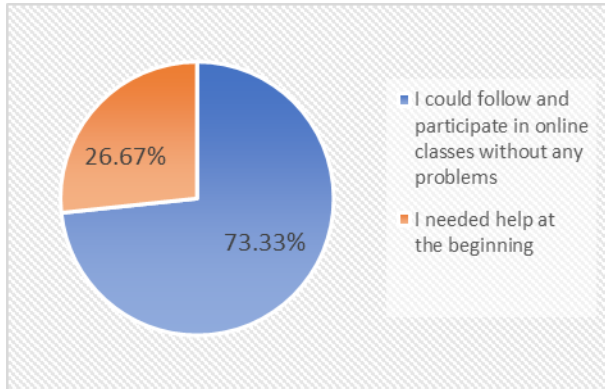

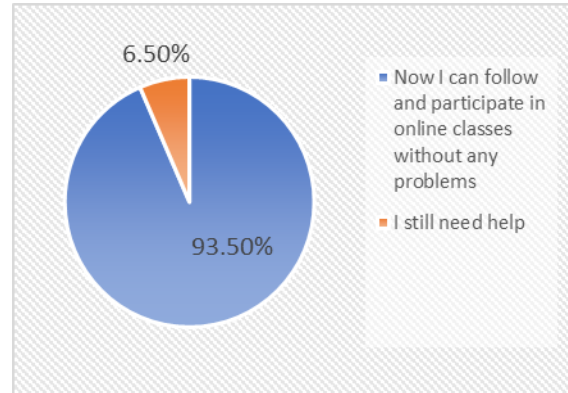**Chart 7.** How do students rate their computer skills when they start following online classes?

Chart8. How do students rate their computer skills now (for following online classes)

Students' interest to attend online classes

The new way of organizing teaching has imposed a series of questions regarding the interest of students to follow and actively participate in online teaching. When we asked if and how often they (students) attend online classes during the semester, the majority of students (65.91%) in 2021 state that they regularly attended online classes, and a smaller percentage of students (18%) attended some of the classes occasionally (Chart 9). The situation is similar in the coming year 2022, with an even greater number of students who regularly attended online classes (79%).
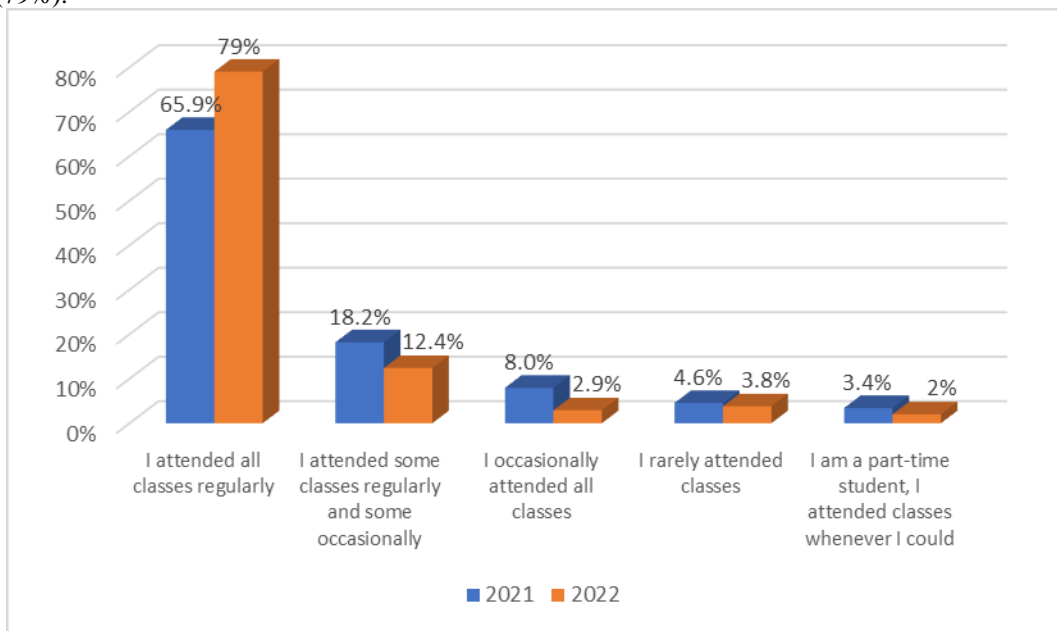

Chart 9. Students' attendance at online classes

The most common reason mentioned by students for attending online classes is to receive useful information, followed by the fact that they learned a large part of the content in class, as well as the opportunity to share experiences and information. The least mentioned reason is the mandatory nature of online classes.

There is a small number of respondents from both educational institutions who consider that online classes were not interesting in any subject at all Table 2. In both years of the survey, slightly more than half of respondents found online classes mostly interesting. The number of respondents in both years of the research who consider that online classes were interesting in only a small part of the subjects should not be neglected.

Table 2. Students' interest to attend online classes

	Respodents 2021		Respodents 2022	
	f	%	f	%
Yes, the classes in all subjects were interesting	20	22,73	28	26,7
Yes, the classes were interesting in many subjects	31	35,23	38	36,2
Yes, the classes were interesting in a small number of subjects	32	36,36	35	33,3
No, the classes were not interesting in any of the subjects	5	5,68	4	3,8
Total	88	100	105	100

In both institutions, the first two reasons why students find online classes interesting are the way the teacher conveys the teaching content and the discussions that take place during the classes. The students state the other reasons in different order: for the students from the Institute of Pedagogy, they are the material they study, the use of illustrative and video material, and the least mentioned reason is the engagement of the students during classes. For the students from the Faculty of Educational Sciences, the third reason is the engagement of the students during the classes, followed by the material they study and the application of illustrative and video material.

One third of the students from both institutions mentioned certain reasons why they think online classes are not interesting. The first is that the teacher was just reading or talking disinterestedly. Other mentioned reasons why the classes were not interesting are: the teacher did not encourage discussion, the classes were short and pro-forma.

The experience of two semesters of online teaching for most students and one semester of online teaching for first-year students (in the 2021 survey) allowed us to ask respondents which type of teaching they were most interested in. About half of the respondents from both institutions declare for teaching with physical presence, but it is not small the number of students whose interest is the same (both in relation to online teaching and in relation to teaching with physical presence) and those students who are for online teaching (Chart 10). In the 2022 survey, we asked the same question, whereas students who had no experience in studying with physical presence did not answer this question (first-year students). Differences are noted on this question when we compare the 2021 survey and the 2022 survey. In 2022, we have a significant increase in the percentage of students who are more interested in online classes, as opposed to respondents who gave this answer a year earlier.
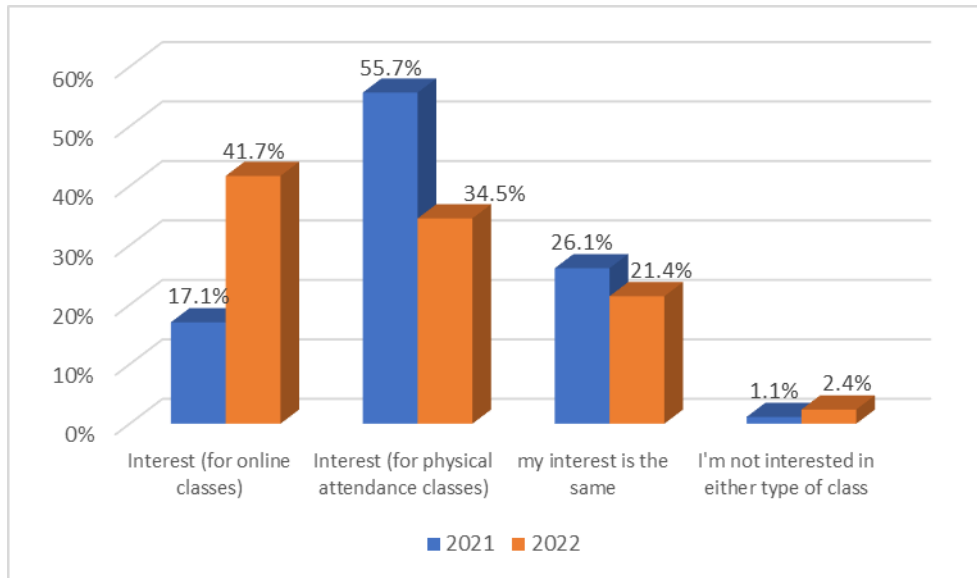
Chart 10. Classes where students are more interested in

Quality of online teaching

We perceived the quality and effectiveness of online teaching and learning through several aspects: through the quality of the platform that was used, the regular maintenance of online classes and the way of their implementation and communication with teachers.

Students from both institutions state that in online teaching and learning they use all the tools mentioned (PPT presentations and university platforms, web pages and applications in the field of education as well as electronic publications and learning materials, as well as videos from youtube).

Regarding the level of students' satisfaction with the platform they used, the results of the two surveys show that about half of the students are satisfied, and slightly less than half are partially satisfied (Chart 11).
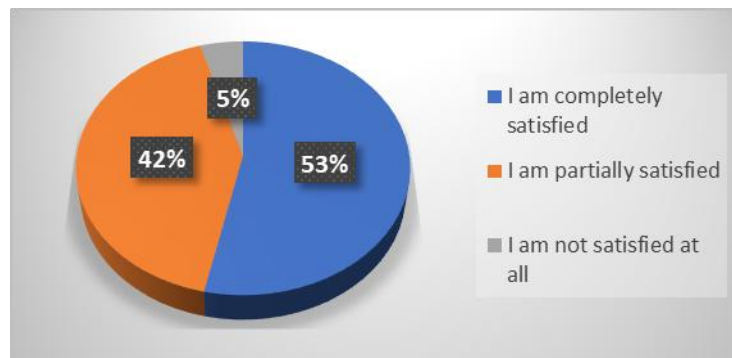

Chart 11. Students' experience of the quality of the platform they used

The responses of the students (2021 and 2022) show that online teaching is mostly regularly implemented at their institution (Chart 12). Regarding the duration of online classes, the majority of students indicate that the duration is the same for both online and face-to-face classes. However, the number of students who point out that online classes last shorter or longer than classes with physical presence is not negligible. (Chart 13).
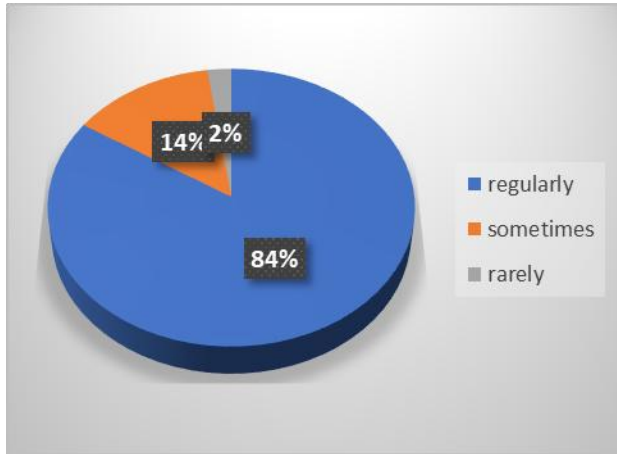
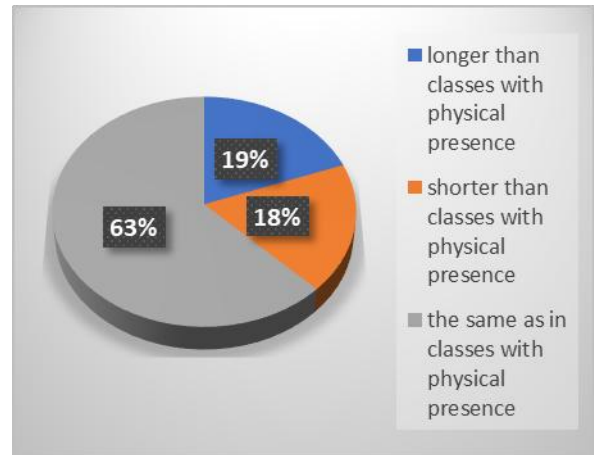**Chart 12.** Frequency of the realization of the online classes

Chart 13. Duration of online classes

When it comes to students' activity during online and face-to-face classes, students' responses from surveys in both years show that slightly less than half of respondents are equally active in both types of classes. The rest of the respondents are divided, some are more active in classes with physical presence, and others in online classes. The number of respondents who were not active in both types of classes is small (Chart 14).
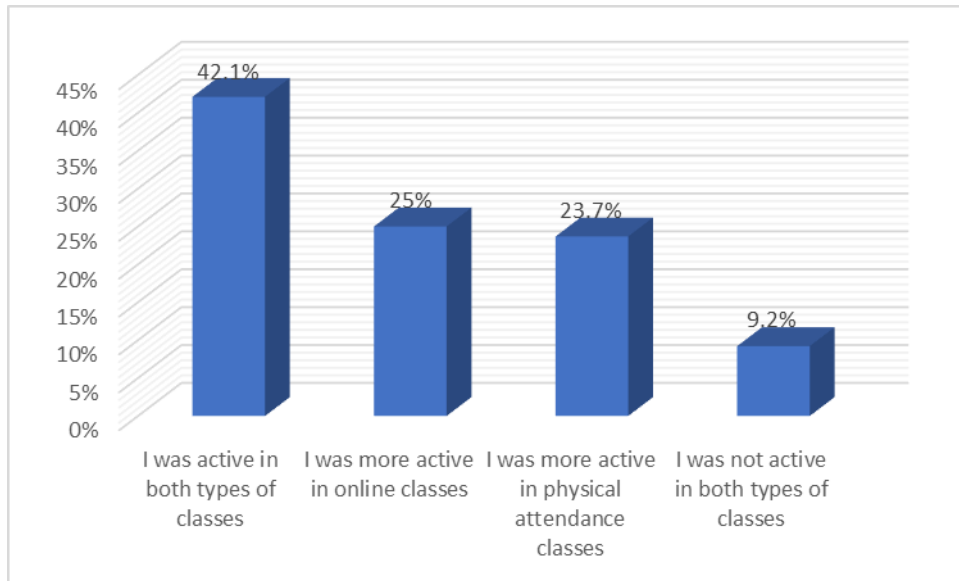
Chart 14. Students' activity in classes

Regarding the students' experience of the teachers' availability for consultation, the results show that about 44% of the students think that the teachers are equally available in both types of teaching. We noticed a divided opinion among some students whether teachers are more accessible during online classes or during classes with physical presence. The percentage of students who consider that teachers are not available for both types of classes is small.

Chart 15. Teachers' availability for consultation

At both institutions, in both surveys, most of the professors implemented the teaching content using PPT presentations during online classes.

Chart 16. Realization of online classes

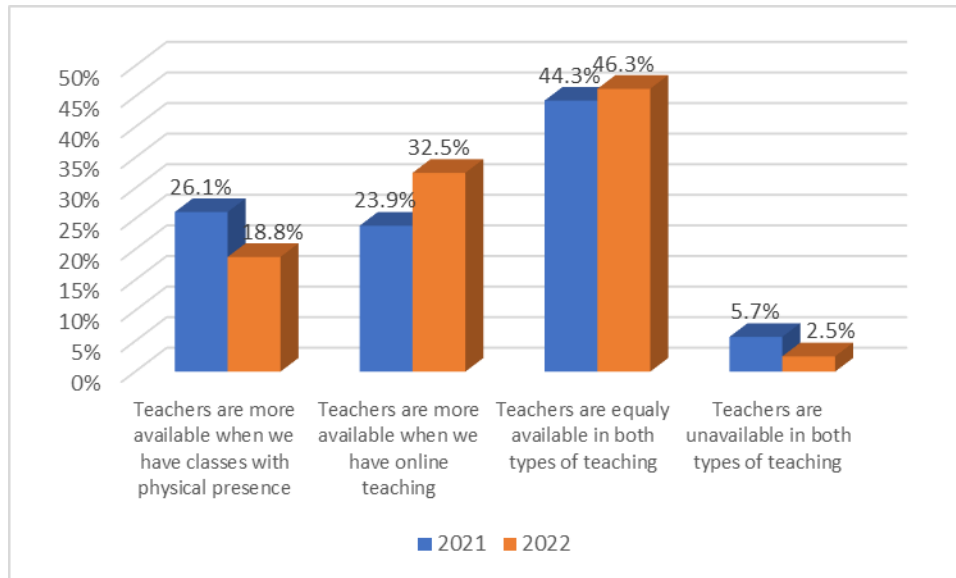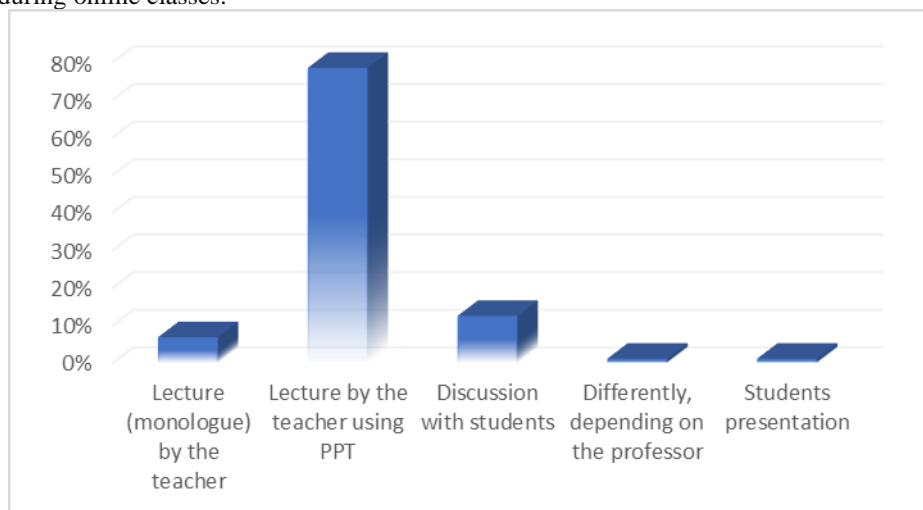In both surveys, the realization of the colloquiums and exams at the FES took place through online tests or through online oral questioning, while at the Institute of Pedagogy, most of the exams and colloquiums were realized with physical presence, and a smaller part with online oral or written questioning. At the same time, the majority of students from both institutions point out that there is no difference in the time they need to prepare for a colloquium or exam in both ways of their implementation.

More than half of the respondents from both institutions (Institute of Pedagogy 58% and FES 69%) show that they have achieved the same success in online teaching as before. 25% of students from the Institute of Pedagogy showed higher success during online teaching, while at FES 8% of students had an improvement in success during online teaching.

Over 60% of respondents from both institutions believe that they achieved the desired results with online learning. The remaining percentage of students from both institutions believe that they did not achieve the desired results with online learning. At the end of this section, we asked students to rate the quality of teaching numerically from 0 to 5. A greater number of students gave a score of 3 and above 3 in both surveys, and it is noteworthy that online teaching was rated higher by students in 2022 compared to 2021 (Chart 17).
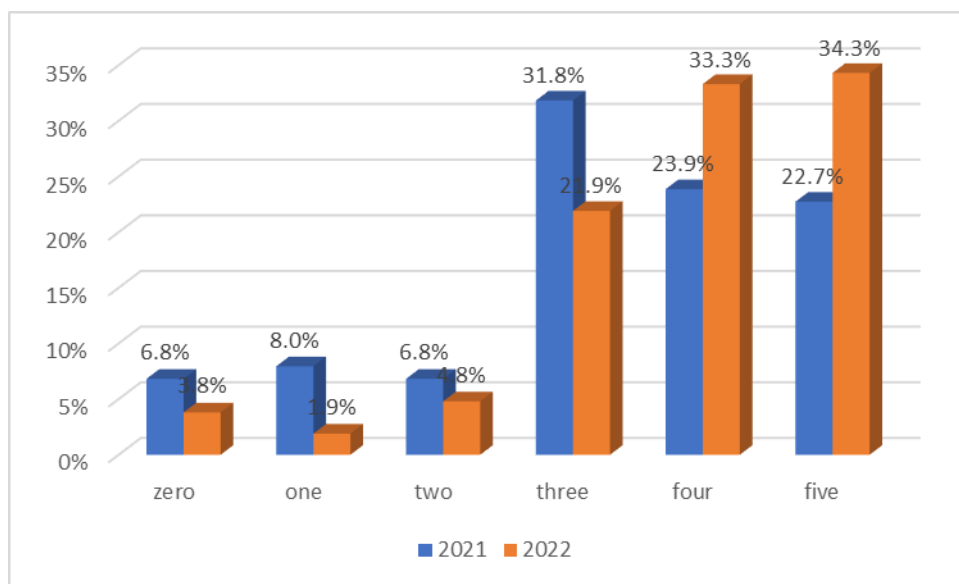
Chart 17. Students evaluation of online teaching

Benefits and weaknesses of online teaching

The literature points out a series of advantages and disadvantages that online teaching brings with it. On the one hand, online teaching and learning offers easy access to a large number of experts, wide access to numerous courses, access to online teaching from any place using a suitable device, online platforms provide the implementation of interactions that can be realized at any time, developing students 'digital learning skills, improving teachers' digital literacy, self-regulated learning (better balance between students learning schedule and their other daily activities), immediate feedback; Flexibility; The tools improve students autonomy. On the other hand, in online teaching there is a lack of interactivity, lack of concentration (because it is difficult to maintain attention due to long sitting in front of the screen and lack of direct face-to-face contact with the teacher), technical problems can arise, the implementation the assessment may be interrupted due to technical problems (internet disconnection, power outage, family emergency); anxiety due to interruption in online communication or lack of computer skills. It can be said that on the one hand virtual platforms are useful for the teachers, through them, teachers receive information on how many times certain content is viewed by the students, but on the other hand, a weakness is that the teachers cannot get information on how well the students have understood the content (Butnaru, Nit,ˇAnichiti, Brînzˇa, 2021; Zhao, Wu, & Kong, J. Guidance for Students, 2020:9-10; Zhao, Wu, & Lin, (2020). Guidance for Parents and Communities; Montenegro-Rueda, M, et al., 2021 p . 10-12).

In our survey, students cite several benefits of online teaching (Table 3): saving time and money (wherever the students are, they can follow the teaching, and at the same time save financial resources because they do not have to travel to the university and back); the implementation of online teaching enabled students and professors to improve their computer skills; A major advantage of online teaching is emphasized by part-time students, as it allows them to follow lectures and exercises frequently („*The benefit is that I, as a part-time student, can also take classes* "). However, it is not small the percentage of students (about a third of the total number) who pointed out that they do not have any benefits from online teaching („*Face-to-face teaching is significantly more efficient and better, so there is nothing that online teaching offers that face-to-face teaching does not have.* ").

Table 3. Benefits of online teaching

Basic word	f	%	Related words
Engagement and activity	7	7,96 %	Greater engagement of students and professors Students are more active, they discuss more Greater openness to discussions Greater communication with professors
Availability of professors	3	3,41%	The professors are more accessible
Time and finances	32	36,36%	I can join from home Saving money for the road Time saving, no need to travel to college Reduction of material costs of stay
Benefit for part-time students	5	5,68%	Ability to attend classes,
Computer skills	8	9,09%	Acquisition of IT skills, New knowledge related to online teaching Improving the preparation of presentations Getting to know the technology Getting to know different types of tools
Covid 19	3	3,41%	Only virus protection
There is none	30	34,09%	There are no special benefits, there are no benefits
Total	88	100 %	

The lack of interaction and socialization is the biggest weakness of online teaching highlighted by students in the survey (Table 4). As more pronounced weaknesses, although in a smaller percentage, the students also mention the technical problems that arise with this type of teaching, as well as the impossibility of real practical teaching at the teaching faculties. („*We don't have exercises and practical teaching ", „The part with the lack of practical teaching in educational institutions bothers me, when you have direct contact with the institution you are studying for, of course you will learn more "*).

Table 4. Weaknesses of online teaching

Basic word	F	%	Related words
Communication, Activity/passivity	43	48,86%	Lack of interaction, communication, socialization Less talk Inability to socialize with colleagues We do not have direct face-to-face contact with colleagues Lack of non-verbal communication

			Although they are all included, not all are active
The way of teaching	6	6,82%	The energy of the teacher is missing
			Mainly lectures through presentations
Practical teaching	7	7,96%	Impossibility to realize the practical teaching
Technical problems	10	11,36%	Sometimes there is no internet and it is not possible to follow the teaching
			Connection problems
			Inadequately trained professors in the use of technology
Evaluation	3	3,41%	Greater opportunities to cheat and get unrealistic grades
			It is not evaluated realistically, lower grades are given
			Unreal assessment
Health condition	4	4,55%	Weak physical activity
			More time spent in front of the computer
			Problems with eyes, spine
No weaknesses	15	17,05	Online teaching has no weaknesses
Total	85	100%	

Based on the identified difficulties and weaknesses, the students in the survey give some directions for the improvement and advancement of online teaching, such as: greater engagement of students during classes („*Students to be more engaged, to be given tasks, to discuss more...*") , provision of greater dynamics in the classes by the professors („*Both professors and students should be more engaged for a better implementation, that is, to find even more interesting ways to do it* "), improvement of the IT skills of the teaching staff ("*To organize training for professors where they will be able to familiarize themselves with various tools to increase the quality of lectures", "Greater training of teaching staff for online teaching*"), providing the necessary IT equipment („*Platforms need to be upgraded* "), greater control in online assessment („*To find ways as far as possible to reduce the possibilities of cheating in order to evaluate real knowledge* ") (Table 5).

Table 5. Guidelines provided by students to enhance online learning

Basic word	F	%	Related words
Activity	41	46,59%	Greater involvement of students in classes
			To avoid the monotonous monologue in the lecture
			Greater dynamics of the class
			Students should be encouraged to dialogue
			More dynamic classes with more student engagement
			Greater engagement of teachers
			Greater dynamism on the part of the professor
IT skills and equipment	11	12,5%	Staff training for online teaching
			To provide IT equipment for students who cannot buy it
			Improvement of the platform through which the teaching is held

			For every professor and student to have equipment
Realization of colloquiums/exams	4	4,55%	Turning on cameras and microphones To find ways to reduce the possibilities of prescription and cheating
Nothing can be done	11	12,5%	Can't be promoted, just to go with physical presence Nothing can replace teaching with physical presence
There's no problem	13	14,77%	I wouldn't change a thing It works flawlessly
No answer	8	9,09%	
Total		**100**	

Given that the main identified weakness of online teaching was the lack of interaction and communication, most of the students' suggestions for its improvement refer precisely to increasing the engagement of both students and teachers in the preparation and implementation of classes. („*Greater engagement by students and professors in teaching* ", „ *To give the maximum from both sides in the teaching, so that the learning process could be efficient" „ Let us - the students - be more engaged and involved in the learning process through encouragement, questions, discussions* ". Although in a twice smaller percentage, students also indicate the need for training of teachers for online teaching („*To improve the way of sharing information by some professors* ", „ *Education of the professors to deal with the platform on which the teaching is carried out* ").

Conclusion

In a period of two academic years during the Covid 19 pandemic, Macedonian students and professors in higher education worked in conditions that were not so smoothy. In the beginning, online teaching and the realization of all university activities was not a matter of choice, but it was imposed as the only way of functioning of the academic life, not only in Macedonia but also in the whole world. The quick transition from classroom teaching to online teaching due to the smooth running of current activities did not allow enough time for preparation and adaptation to the new situation, due to which all participants in the educational process found themselves in a difficult and complex state of confusion and uncertainty, stress and concerns, costs and the need for technical re-equipment and re-training for remote work.

The results of the research conducted among the Macedonian students studying at the teaching faculties showed that at the very beginning of the online work, the majority of the students had access to the necessary technology to be able to follow the teaching, but there were still students for whom the new situation brought costs. The number of students who initially needed training to follow and participate in online teaching is not small. As for the attendance of the students at the online classes, which were mainly held regularly, the students confirmed their attendance at these classes, but later this issue also appeared in the section on the shortcomings of the online teaching, where it was emphasized that the attendance of the students is only formally and without adequate control ensured.

During the online teaching, the lessons were realized mostly through the presentation of the teacher using a PPT, and the students would like their greater involvement and engagement in the teaching.

About two-thirds of the students think that the teachers were available to them during the online teaching, while the rest think that the teachers are still more accessible when there is teaching with physical presence. Students from both institutions highlight the need for greater control over online questioning and the presence of students during online activities.

A large number of students share the opinion that online teaching cannot replace physical teaching, which is also confirmed by the results of other similar surveys. (Verde & Valero, 2021, p. 10 -11). The advantages of online teaching are the saving of time and money, the possibility to be followed by part-time students, but all students point out the big drawback of online classes – the lack of communication and the impossibility to realize practical teaching.

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