

Online teaching in conditions of pandemic Covid-19 - problems, challenges and opportunities for students and universities in the Republic of North Macedonia

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Abstract

With the declaration of a pandemic caused by the Covid-19 virus by the WHO (World Health Organization) in 2020 and the quarantines that followed, in many countries, including the Republic of North Macedonia, one of the most affected sectors was education. Many universities have discontinued physical attendance, closed classrooms, and switched to online teaching using a variety of virtual platforms.

The complete transformation of the educational process in terms of online teaching, had a huge impact on the work of higher education institutions, but also the adaptation of the new conditions by the teaching staff and students. Everyone has experienced the transition from classroom learning to online teaching and learning in different ways. There was a need to purchase additional equipment, better internet, but also to adapt all family members to the new working and living conditions.

Therefore, the purpose of researching this paper is to identify the advantages, disadvantages and satisfaction of using online teaching platforms through the prism of higher education institutions, professors and students.

The survey will be conducted by submitting two anonymous questionnaires through the online platform docs.google.com. The questionnaire related to higher education institutions will be submitted to the Vice-Rectors for Teaching at all universities in the Republic of North Macedonia, while the questionnaire related to students will be distributed to students at all universities through student unions.

The results of the research will be presented summarically. The paper will include a comparative analysis of the problems, opportunities and expectations of online teaching from the perspective of higher education institutions and students.

Keywords: Covid-19, online teaching, problems, challenges, opportunities

1. Introduction

The spread of the COVID - 19 virus worldwide has affected the work of higher education institutions around the world. Universities began disrupting classes, closing classrooms, abruptly emptying their campuses, and transitioning to cyberspace. This approach to the emerging situation is accompanied by a number of advantages, such as the serious challenges that universities are still trying to adequately address.

The nature of the situation made ad-hoc analysis practically impossible, and the short deadline given by the authorities to the educational institutions to prepare for this transfer had a great contribution in all this.

In order to get knowledge and opinions from universities and students about what challenges they face, what are the advantages and what suggestions they have, we conducted an online survey on the online platform Google Forms in Macedonian.

A very important consequence that must be noted in this context is the fact that the transfer of the entire educational process to compulsory online learning and the technical challenges that followed, not only highlighted, but also aggravated the economic inequalities among students in the Republic of North Macedonia. The availability of technological aids (laptops), which may not be a problem for some families, has become a huge burden for other families. Many students belonging to vulnerable socio-economic groups, especially those families where more children attend school at the same time, highlighted problems of a technical or economic nature. Additionally, because many of the activities required real-time student involvement, 98.2% of full-time and 1.8% part-time students participated in the research, of which 52.3% of students used an online learning platform for the first time in 2019/2020, and the remaining 47.7% used an online platform for the first time in 2020/2021.

According to the online research, universities use different platforms for online teaching, such as: Microsoft teams, Google meet, Zoom, Big blue button, Cisco webex. According to the answers of the universities in the Republic of North Macedonia, some of them stated that the use of the platforms is free within the Microsoft toolkit, while some universities pay \$ 90 for their use, and only a small part of them do not have data on this issue.

The Covid-19 pandemic affected both the revenue and the cost of universities. According to the survey, 83.3% of the costs for universities remained the same, while 16.7% of the costs decreased. As a result, cash inflows have declined.

2. Problems with the online teaching that keep the students in the Republic of North Macedonia in conditions of Covid-19

This part of the analysis will present the situation with higher education in the world during the COVID - 19 pandemic, with special emphasis on the problems in conducting online teaching, online exams and student assessment.

In order to obtain opinions from students at all universities in the Republic of North Macedonia, an online survey was conducted to answer the question: What are the problems faced by students in the conditions of Covid-19 in the Republic of North Macedonia?

The answers we received to this question are numerous.

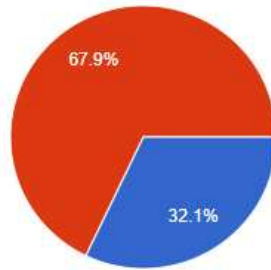
Students in Republic of North Macedonia believe that the disadvantage of online teaching is that they can not capture the closeness with colleagues during lectures and exercises, as it can be done in physical presence, further believe that lack of practice and unrealistic

assessment are problems in terms of Covid-19. Another problem is that the real effect of what is being taught cannot be captured and some key points cannot be emphasized. Interaction with professors and assistants is much smaller. Good students face being "suspected" of copying, while weaker students find it much easier to achieve satisfactory results. There is a possibility for exam manipulations, problems with poor electronic equipment, increased costs for the same as well as the absence of face-to-face communication. There is a problem with power outages during lectures and taking colloquia and exams that result in deducted points for attendance, exercises. There is insufficient engagement and organization of some of the professors (such as responsibility, timely reporting on lectures, etc.), as well as part of the students, absence from classes, difficulty in attending and activity in class, lower motivation and concentration, less interest in listening instruction, reduced learning intensity as well as technical problems. Many students use a passive way of listening to lectures. Increased stress during the conduct of colloquia and exams, reduced duration of the same, and there is reduced control of certain professors, and increased control of other professors during the conduct of colloquia and exams. The respondents emphasized that the disadvantage is the absence of physical contact for performing the exercises (for example, medical school - contact with patients; faculty of chemistry - chemical reactions with solutions, art academy, music academy). The disadvantage is the non-registration of students present during lectures. Most colloquia are taken orally for fear of being copied by students. The number of additional assignments for students by professors has increased. Waiting all day during an exam with certain professors. The perception and importance of the activities that are conducted online in relation to physical education is not identical. Academy of Fine Arts, Academy of Music). The disadvantage is the non-registration of students present during lectures. Most colloquia are taken orally for fear of being copied by students. The number of additional assignments for students by professors has increased. Waiting all day during an exam with certain professors. The perception and importance of the activities that are conducted online in relation to physical education is not identical. Academy of Fine Arts, Academy of Music). The disadvantage is the non-registration of students present during lectures. Most colloquia are taken orally for fear of being copied by students. The number of additional assignments for students by professors has increased. Waiting all day during an exam with certain professors. The perception and importance of the activities that are conducted online in relation to physical education is not identical.

2.1. Problems faced by the universities in the Republic of North Macedonia in conditions of Covid-19

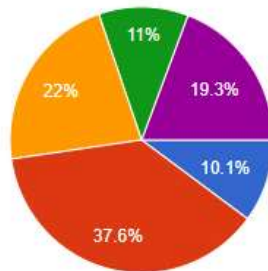
From the research, the answers we received from the universities in the Republic of North Macedonia were shocking that there is a difference in the problems that they and the students face. On the question: What challenges does your university face in conducting online classes? - The answers were varied. Some have stated that they face relatively fewer challenges than on-campus classes, delays and delays are rare, exam sessions run at a better pace, and instructional content is widely available because it is electronic and recorded. Other universities said the transfer itself was a big challenge, working from home was a challenge, especially last year during the first closures, not every professor had the materials ready. Conducting exercises, conducting practical classes is a challenge. Moodle load (e-learning) while taking colloquia. Some universities have emphasized that they face financial difficulties because last year many of the projects were extended and the funds remained the same, while the new calls were postponed and there was no usual inflow of new funds.

Table 1: Do you think that online teaching meets the criteria for quality education?



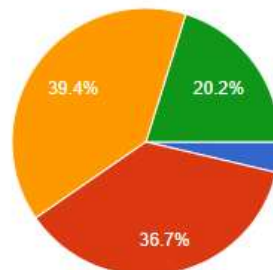
According to the research, 67.9% of the respondents answered that online teaching does NOT meet the criteria for quality education, while the remaining 32.1% gave a positive answer - YES.

Table 2: How motivated are you to learn during Covid-19?



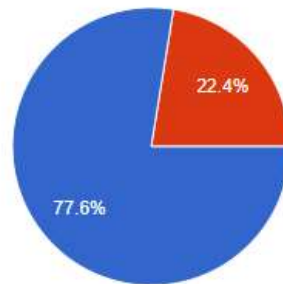
19.3% of the respondents answered that they are not motivated at all to study during Covid-19, 11% - are slightly motivated, 22% - are somewhat motivated, 37.6% - moderately motivated and only 10.1% of the respondents answered that they are very motivated.

Table 3: How often do you encounter internet connection problems?



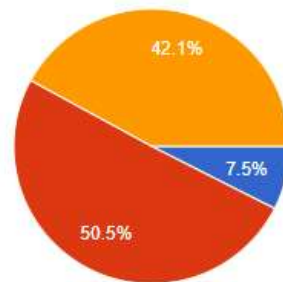
3.7% of the respondents very often face problems with internet connection, 36.7% - often, 39.4% - rarely, while 20.2% of the respondents very rarely face problems with internet connection.

Table 4: In your opinion, does the switch to online teaching during Covid-19 highlight the economic inequalities of the participants in the education system?



According to the respondents, 77.6% answered YES and 22.4% answered NO.

Table 5: How would you rate the knowledge you acquired in the previous semesters that took place online in relation to the knowledge you would acquire in the teaching that is organized with physical presence?



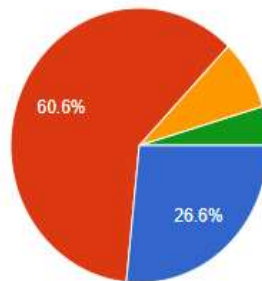
50.5% of the respondents have less knowledge than usual, 42.1% - more knowledge than usual and 7.5% of the respondents have the same knowledge.

3. The advantages of online teaching through the prism of students in the Republic of North Macedonia

According to the respondents, to the question What advantages do they face during the teaching? - we got the following answers: the biggest advantage is that the study costs (travel expenses, student accommodation expenses, food expenses electricity, water, printing costs) , clothing costs) have been reduced, online teaching allows more free time, more comfort. Students are given the opportunity to take a written test to reduce anxiety, as well as an oral test to improve their speaking skills. The use of online tools for formal and non-formal learning has increased. It saves time and completes faculty tasks faster, so there is time and personal, private responsibilities. Online lectures are more regular and organized than physical ones. Some professors are more available online, emphasizing their promptness for the terms of assignments and lectures. Flexible way of listening and taking the courses of the student's choice anywhere in the world. The advantage is that meetings can be held more often at the

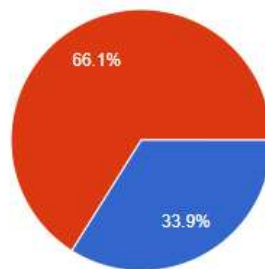
level of faculties and universities. Lectures can be recorded and listened to again, to aid in learning and mastering the subject. There is an opportunity for work and during the studies. Online instruction increases security from Covid-19. Opportunity to follow online scientific research. The advantage is the lack of physical contact in conditions of Covid-19. Lectures can be recorded and listened to again, to aid in learning and mastering the subject. There is a possibility for work and during the studies. Online instruction increases security from Covid-19. Opportunity to follow online scientific research. The advantage is the lack of physical contact in conditions of Covid-19. Lectures can be recorded and listened to again, to aid in learning and mastering the subject. There is a possibility for work and during the studies. Online instruction increases security from Covid-19. Opportunity to follow online scientific research. The advantage is the lack of physical contact in conditions of Covid-19. Greater emphasis on online research and case study.

Table 6: How satisfied are you with the platform provided by your university?



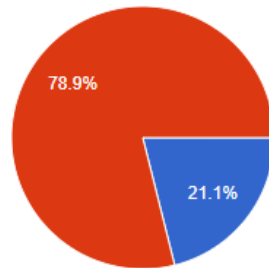
60.6% of the respondents answered that they are satisfied with the e-learning platform, 26.6% - very satisfied, 8.3% - dissatisfied and only 4.6% of the respondents answered that they are extremely dissatisfied.

Table 7: Did you need to get a new device for online teaching?



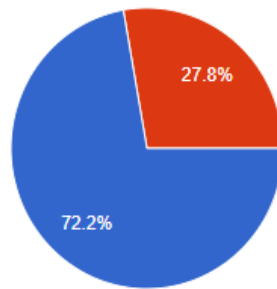
66.1% of the respondents answered that they did not need to purchase a new device, while 33.9% answered positively.

Table 8: Has online tuition increased your internet costs?



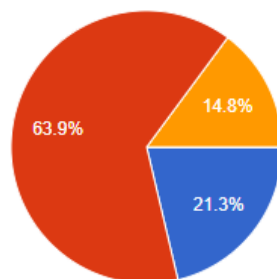
78.9% of the respondents answered NO, the remaining 21.1% answered YES.

Table 9: Do you come across understanding from professors / assistants in case of internet connection problems, device malfunction, etc.?



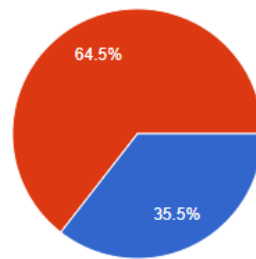
72.2% of the respondents answered YES, 27.8% answered NO.

Table 10: How much do teachers / assistants engage in teaching?



63.9% of the respondents answered that the professors are engaged enough, 21.3% - too much, 14.8% - not enough.

Table 11: Did you move because of the Covid-19 pandemic? (For example, from a dormitory to a family house, etc.)



64.5% of the respondents answered NO, 35.5% answered YES.

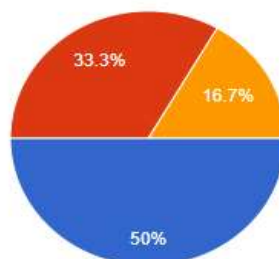
3.1. Advantages of online teaching through the prism of the universities in the Republic of North Macedonia

Universities with the full introduction of online teaching during Covid-19 reduced the delays and delays of lectures, the exam sessions were held at a better pace, and the teaching contents were made widely available because they were in electronic form and recorded. Online teaching provides unlimited opportunities to hire professors from abroad both as full-time and visiting professors. This creates an internationalization of the educational process, of course this applies to programs that are conducted exclusively in English.

The universities in the Republic of North Macedonia have resources and have enough competent staff that has the opportunity to realize teaching and transfer certain teaching contents online, because online information can be repeated many times and a much larger number of students are included in that particular lecture.

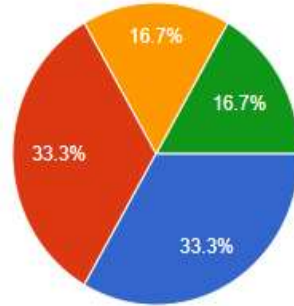
It rarely happened that there was an interruption of the internet among the teachers in conducting the online teaching, ie only 50%, while 33.3% of the professors very rarely faced such a problem, and only 16.7% often faced a problem with the online teaching. The new way of learning was well accepted by the students, but also by the university professors in the Republic of North Macedonia.

Table 12: How was the teaching method accepted by the professors at your University?



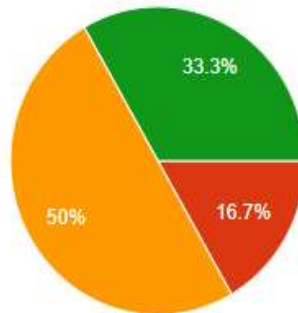
50% of the respondents answered excellently, 33.3% very well and 16.7% well.

Table 13: How was the new way of learning accepted by the students of your University?



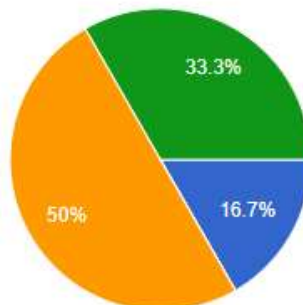
33.3% of the respondents answered excellent, 33.3% very good, 16.7% good and 16.7% bad

Table 14: How often do professors have an internet outage when taking online classes?



33.3% of respondents very rarely, 50% rarely, and 16.7% often

Table 15: How often do students have an internet outage when taking online classes?

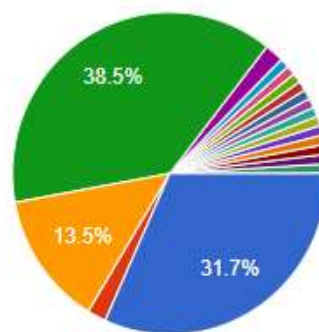


33.3% of respondents answered very rarely, 50% rarely and 16.7% very often.

4. Suggestions from students to reduce the shortcomings of conducting online teaching in conditions of Covid-19

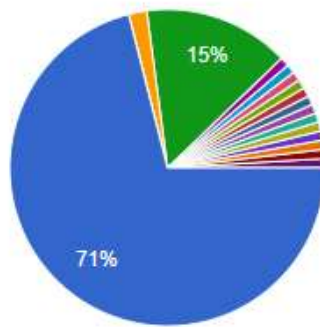
According to the results of the research, the students of the Universities in the Republic of North Macedonia gave various proposals for reducing the shortcomings of the online teaching, such as: reduction of the control by the professors, greater engagement of the professors and assistants, considering that digital platforms are used, to use them. all the possibilities in an interesting, creative way in order to capture what they teach. Lectures, if necessary in accordance with the epidemiological situation, to be held online, and colloquia and final exams with physical presence and application of appropriate measures for protection against Covid 19. If there is a possibility of favorable epidemiological situation and lectures and exercises to be held with physical presence is the best option for quality education and formation of quality staff. More discussions during the lectures, more work on case studies, involvement of psychologists in teaching. It is best to complete the online classes and make an effort to vaccinate students and UGD staff by early October. Mandatory participation with camera and microphone included, finding more ways to reduce fraud during the colloquium and exam. The state to help students with vouchers to buy laptops or tablets, because the platforms require better equipment. Teaching in nature if possible. Consultations and timely teaching with full explanation by the professor / assistant. Free accommodation in dormitories and for students who are and are not social cases, but have a small family income. Donations for families who can not afford online classes Recording of lectures and sharing in groups for accessibility for all students. Proposal for change from traditional knowledge testing to more interactive and inventive ways. Conducting mini-projects, short oral examinations to reduce the possibility of abusing online teaching in rewriting. During the exam to form more groups with three or four students in order for each student to have the correct date for taking the exam because there is a lot of stress waiting throughout the day for a call from the professor. Better and more frequent communication between professor and student.

Table 12: How does your university conduct colloquia?



38.5% of the respondents answered that the colloquia are conducted in writing with a camera on the respective platform, 31.7% - orally with a camera on the respective platform, 13.5% - in writing without a camera on the respective platform, 1.9% - orally without a camera on the respective platform, 4.9% - orally and written with a camera on the appropriate platform, 1% - orally and in writing with and without a camera on the appropriate platform, 1% - orally and in writing with two cameras, 1% - written without a camera, orally with a camera, 1% - written without a camera, written with camera and plus with physical presence, 4% - combined, depending on the professor, 1% - physical presence, 1.5% - written with two cameras, screen recorder and keylogger

Table 13: How does your university conduct exams?



71% -oral with camera on appropriate platform, 15% -written with camera on appropriate platform, 1.9% -written without camera on appropriate platform, 4.9% -oral and written with camera, 3.6% -oral and written with camera and without camera , 1.8% -written without camera, oral with camera and with physical presence, 0.9% -physical presence, 0.9% -oral and written with physical presence.

4.1. Proposals from universities to reduce the shortcomings of conducting online teaching in conditions of Covid-19

Universities have made suggestions for further online teaching:

- Online teaching should be legalized within the law in order to regulate some basic grounds on which such teaching will be conducted in the future.
- According to universities Online teaching provides unlimited opportunities for hiring professors from abroad as full-time and visiting professors. in this way the internationalization of the educational process is created. Especially for programs that are performed exclusively in English.
- Legislation should be inclusive regarding the internationalization of Macedonian education. students will not need to go abroad to attend classes with international teaching staff. all this will be made possible for me at home, of course in cooperation with the local professors. Online education is a historic chance for the country to make an urgent connection to the developed education systems in the world that have long operated on the basis of hybrid systems
- From the beginning of the studies we use electronic textbooks, often in the lectures are used presentations and videos that require internet and appropriate devices. We are also considering a hybrid type of teaching, where certain individuals will be able to attend lectures or organize defenses, to be available both live and online. We record some of the lectures so that they can be available to students who could not attend the scheduled appointment.
- For the realization of online teaching, cabinets should be arranged, which will be better technically equipped, there will be additional monitors, where it will be possible to send the included cameras from all participants in the classes.
- We would return to the lecture halls as soon as the conditions are right. Online teaching will be an option that we will have and we can offer it as a hybrid model for studying (part with lectures / exercises and physical presence, part with online activities). The experience is enjoyable and the moment of change should be used to improve the way of working.

- In order to solve the problem of students who do not have access to the Internet and an appropriate device for listening to teaching online, universities realize hybrid teaching both online and physical presence by agreement with students at least once a month. Vulnerable students are provided with a full or partial scholarship to meet their needs.
- At some universities student councils have come up with providing computers to vulnerable categories and free internet.

5. Comparative analysis of the answers from the students and the universities in the Republic of North Macedonia

According to the analysis, it can be seen that the costs at the universities remained the same (according to 83.3% of the respondents), while 16.7% of the universities reduced the costs, while other costs (costs for maintaining hygiene in the university premises, water costs, etc.) remained the same at some universities, increased at others, and remained the same at third universities. In contrast to university responses, students responded that costs under Covid-19 were reduced (rent, transportation, clothing, electricity). 50% of the universities think that students rarely face problems with internet connection when conducting online classes, while 36.7% of students think that they often face problems with internet connection. 33.3% of the universities think that the new way of learning is well accepted by the students, 60.6% of the students are satisfied with the online teaching platform provided by their university. According to the answers of the universities and students, the best proposal for reducing the shortcomings of online teaching is to organize a hybrid type of teaching, so that students will have the opportunity to attend lectures both online and in person. Part of the lectures should be recorded so that they can be available to students who could not attend the scheduled appointment. The best suggestion for reducing the disadvantages of online teaching is to organize a hybrid type of teaching, so that students will have the opportunity to attend lectures both online and in person. Part of the lectures should be recorded so that they can be available to students who could not attend the scheduled appointment. The best suggestion for reducing the disadvantages of online teaching is to organize a hybrid type of teaching, so that students will have the opportunity to attend lectures both online and in person. Part of the lectures should be recorded so that they can be available to students who could not attend the scheduled appointment.

6. Conclusion

It is obvious that the pandemic caused by the virus has caused huge changes in the daily functioning within the country. In addition, it has caused huge changes and unconventional ways of functioning within universities. However, it also caused some positive changes and trends in higher education in the country - the beginning of digitalization - but also showed the already existing problems, such as poor and short-sighted management of higher education institutions, especially in such situations.

Immediately after deciding to stop the conventional teaching, the universities in the Republic of North Macedonia decided not to allow the interruption of the studies they offer and as a result reached for the digitalization of their resources, materials and lectures. One of the major educational challenges of higher education institutions during the COVID - 19 pandemic is the realization of exams and student assessment.

The biggest benefit of online learning for students is the ability to attend classes from the comfort of their own home. This also entails reduced costs and reduced travel time for them

to be physically present at universities, and it also entails reduced living costs for students studying in another city.

On the other hand, one major limitation is the reduced interaction with students due to the limited feedback they have on the use of those online platforms, there is content that can not be compensated online, such as practical work, group work and exercises, and therefore classical teaching remains inviolable. In order to overcome the shortcomings of online teaching, it should be an option that universities will have in order to be able to offer a hybrid model of study (part of lectures / exercises with physical presence, part of activities with online presence).

The experience is enjoyable and the moment of change should be used to improve the way of working.

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2. https://docs.google.com/forms/d/1jWKkEboHWqglAXdfojAnISyKHkM77v-Or9QDtzdXA/viewform?fbclid=IwAR3AvQRdx-vVcDs9oEGTpsjahpSSyCA2Qd7LIANy3LEFrP4M_9ZVFcCbQG8&edit_requested=true