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## Impact of COVID-19 on Higher Education: Challenges and Opportunities

### Abstract

The COVID-19 pandemic shocked the world. The pressure on students and higher education institutions is high. Universities have been closed, but solutions to continue teaching and learning activities were offered by the online platforms. Hence, the aim of this study was to investigate how university medical students perceive this current form of education. The results of the survey highlighted that most of the students were satisfied with the measures taken by the university during the COVID-19 outbreak and the way the teaching-learning-assessment process took place. However, some negative aspects were reported, such as: lack of an adequate infrastructure for some students, less effective teacher-student communication and interaction, impossibility of performing practical applications, lack of socialization, less objective examination, possibility of physical and mental health problems. The main conclusion is that the students prefer to continue with hybrid model of learning, where the theoretical classes could be online, but practical classes would be face-to-face. Universities, now more than ever, should invest in teacher professional development of their faculty – for teachers to be updated on effective pedagogical methods with or without the use of online technologies.

Keywords: COVID-19 pandemic, face-to-face education, online education, medical students, student survey, challenges

### Introduction

*We cannot return to the world as it was before, but we should consider ways that the right to education, might need to be broadened to encompass fluidity, capillarity and the changing contexts of contemporary societies.*

Sahle-Work Zewde, Chairman of the International Commission on the Future of Education, UN, 2019

Education is “a fundamental human right, a global common good and a primary driver of progress across all the 17 Sustainable Development Goals (SDG) in the 2030 Agenda as a bedrock of just equal, inclusive, peaceful society” (United Nations, 2020, p. 3). The COVID-19 pandemic has caused disruption to education than at any other time in modern history, and has already had impacts on learners and teachers all around the world (Ebner et al., 2020). Education around the world has been suffering many problems due to this pandemic, and students are a significant part of the population who are directly affected.

In the higher education sector, universities have been forced to close the doors in response to the growing coronavirus outbreak, and switched classes to online

learning to keep students' retention and maintain access to learning (The World University Rankings, 2020). A solution to continue teaching and learning activities was offered by online platforms. E-learning tools have played a crucial role during this pandemic, helping schools and universities to facilitate student learning during the closure of universities and schools (Subedi et al., 2020). Online learning, distance and continuing education have become a panacea for this unprecedented global pandemic, despite the challenges posed to both educators and learners. Transitioning from traditional to face-to-face learning to online learning can be an entirely different experience for students and professors, which they mostly adapt to with little or no available alternatives.

### **Impact of COVID-19 on higher education**

The global outbreak of the COVID-19 pandemic has spread worldwide, affecting almost all countries. The outbreak was first identified in December 2019 in Wuhan, China. The countries around the world cautioned the public to take responsive care. The pressure on students and higher education institutions was high. Schools and universities were closed and examinations postponed in many cases. Classrooms and teaching went virtual and admissions for the 2020/2021 academic year were fraught with confusion (Azoulay, 2020). It was not easy for all members and stakeholders in higher education institutions to transfer education to the distance education system, as it was not easy for families and students to accept that the educational process takes place entirely from home, so it is very difficult for parents and students to accept this direct transfer in the method of delivery for the education system (Rapanta et al., 2020). Additionally, it was very hard to request from physics professors to prepare lectures from the Zoom program, because this method was also new for the students. It was also difficult for all students to accept this shift in which they are required attend a full program of study, lectures and register attendance while they are in front of a laptop or a mobile phone screen (Basilaia & Kvavadze, 2020).

On the other hand, the crisis this has encouraged innovation within the education sector. Countries are started to reopening schools and higher education institutions either based on grade level and by prioritizing exam classes, or through localized openings in regions with fewer cases of the virus. However, given the continued virulence of the virus, the majority of the countries surveyed in May-June 2020 had yet to decide on a reopening date at the time of the survey report (UNESCO-UNICEF-World Bank, 2020). These decisions carry enormous social and economic implications and will have lasting effects on educators, children and young people, their parents and indeed societies as a whole.

### **Teaching and learning during the COVID-19 outbreak and beyond**

The pandemic has pushed the world to dramatically reinvent ways of coping with the "new normal". After the initial phase of complete overhaul, it is critical to understand the short and long-term impact and future measures. Can the world emerge from this crisis with a perspective and boost to higher education? An immediate and effective response to the crisis was to go digital. Developing robust online platforms has become necessary to offer continuity in learning. Good

teachers, refreshed curricula and effective tools will ensure students stay involved and active in the learning process.

While adapting to the new changes, staff and students need to be supported accordingly. Universities and higher education institutions should provide a flexible mechanism to teach their practical and theoretical curricula. In this regard, a higher education institution can teach all theoretical programs through the distance education system (Doucet et al., 2020). Online learning has provided the opportunity to teach and learn in innovative ways unlike the teaching and learning experience in the normal classroom setting (Petrie et al., 2020). Regarding practical programs, universities can teach those programs following the in-person mode in the form of very small groups of 4-6 students taking utmost safety and security and applying all prevention and triage protocols (Hampsten, 2021).

## **Research methods**

### *The objectives of the research*

Before the COVID-19 pandemic, practical preclinical and clinical courses at the Faculty of Medical Sciences within the University of Tetova were accompanied by theoretical face-to-face courses. In the spring term 2020, preclinical (semester 1–5) and clinical (semester 6–10) students stayed at home. To make lessons possible, our university decided to implement online learning instead of face-to-face courses. Combinations of synchronous and asynchronous formats (e.g., lectures and scripts on online platforms and “consultation hours” for students’ in question) were provided.

Therefore, the purpose of our research is to investigate how the university medical students perceive the current form of education. We aim to find out their opinions about their experiences during the learning process, what they value from face-to-face education and distance education and what they have experienced since the state of alarm was declared in Republic of North Macedonia on 10 March 2020.

### *The study sample*

The study included an analysis of a sample of 220 randomly selected students who studied medical sciences at the University in Tetova during the winter semester of the academic year of 2021/2022. The inclusion criteria for the study were participants between 20 and 23 years of age with at least one year of learning experience. Of all participants, 124 were female students (55.36%) and 96 were male students (43.64%).

### *The design of the survey*

The basic method used in conducting the study was the survey method, which used a questionnaire as a tool. An anonymous online survey assessing the students’ opinion about face-to-face and online learning education was created using the Google Forms online application. The survey consisted of five closed questions; the students had to choose between multiple options or rank-order them, using five levels ordinal scales (very good, good, neutral, bad, and very bad). There were also two open-ended questions, which gave students the opportunity to indicate their experiences with online courses and technology devices they found particularly

useful for online learning. Also, there was one open question, asking about what educational model they would like to continue their training with at the university. The limitation of the questionnaire is that respondents on some statements were to tick more than one answer, which depends of their own opinion. Students were invited via email, with information on the purpose of the study and the time it could take to complete the questionnaires. They were also told that their participation was voluntary and they could withdraw at any time. It also contained a web link to the online survey form created by using Google Forms. The survey form was accessible to the students from October 20 to December 20, 2021. The data was exported to Microsoft Excel 2018 and was analyzed by using SPSS (Statistical Package for Social Sciences) version 20 for Windows.

## Results

According to the results, 54% of the students never took online courses while 46% of them did it regularly. The items used to assess the online teaching, learning and assessment/examination experience during the COVID-19 pandemic were ranked as “good” and “very good” by most of the students. The students who did not give these scores belong to a vulnerable category that requires the implementation of effective measures for their support by the university. Moreover, most of the students (78%) agreed that online learning was well-structured and the level of ambition was good, which means that they could follow the teaching content and did not feel over challenged or unchallenged. At the same time the majority of the students in the study (82%) agreed that materials are adequately available on the portal and lectures are presented with diversity of presentation of lectures on the portal (video, PowerPoint presentations, and online sessions). Half of the students in the study (50%) agreed that the learning methods through the online portal ensure student-to-student and student-to-professor interaction.

Although most of the students (90%) indicated that they have the necessary infrastructure, 60% of them thought that the communication with the professors was not as effective as the face-to-face education. In regard to online assessment/examination, 82% of the students were mostly satisfied according to their answers. Only 12% of them showed a slight dissatisfaction with the eared grades/examination methods.

Regarding the advantages of combining traditional education with online education, most of the students (83.33%) agreed with the statement, while 16.67% expressed a neutral position. They put “more-flexible-self-paced learning” first, in the second plan “face-to-face communication and teacher-student interaction”, and in third place “less time in front of the screen, and more physical activities”. The majority of the students stated that they did not feel well-prepared for the practical part of the curriculum by solely participating in online learning, so this opportunity to have the practical courses with direct communication with their assistants and professors was very useful for them.

When asked about the benefits of online education in the future, 70.74% of students agreed that using online platforms motivated them to learn. The students considered that one of the disadvantages of online teaching during the COVID-19 pandemic were the negative feelings of stress or anxiety.

## Discussion

The COVID-19 pandemic has created the largest disruption of the education system in history, affecting nearly 1.6 billion learners in more than 190 countries and on all continents (United Nations, 2020). Educational institutions immediately switched to distance learning in light of the national lockdown. As these lockdowns eased, getting school and universities open has been a top priority for many countries, including the Republic of North Macedonia.

The statistical analysis of the survey reveals common positive attitudes among students in regard to the shift to online distance learning. Also, the current study supports the fact that students adapted fast and had positive attitudes towards the change during the pandemic. The obtained results are similar to the results obtained by other researchers (Rizun & Brown, 2020). Also, our results confirmed that medical students prefer face-to-face classes for the practical part of the courses, because the practical applications cannot be replaced by online learning (Iyer, Aziz & Ojcius, 2020). The results showed that by not having the opportunity for face-to-face interaction, most of the students were not satisfied with the educational model of online lessons, which affected their motivation and willingness to following the subjects. Singh and Matthews (2021) conclude that interaction (between students, or students and educators) is an important variable and has a positive effect on student satisfaction.

At the same time, the students in the study prefer hybrid model of learning, because through conversation, speech and debate, a new concept is clarified or a skill is practiced. According to Qian-Hui and Ying (2020), during and after the pandemic, network course resources, network teaching platform, live streaming system and synchronous classroom are still online teaching.

## Conclusion

The situation we face is so dramatic and difficult that we cannot afford to be pessimistic. We are facing the biggest changes in education, so one positive outcome of the pandemic is that it will push us to overcome the numerous global educational challenges sooner than any of us expected. The online live classes assumed the role of a “live guide” to motivate students in their learning process and rendered psychological support in stress hours of stringent restrictions. Technology plays pivotal role in upgrading educational processes and outcomes while defining the relationship between technology and education as bidirectional.

We must build narratives for what the new reality could look like. We have nourished the sources that give us hope in rethinking how the world works. Education needs to be at the heart of a post-COVID world. For that future we need boldness of thought and courageous action now.

Although it is too early to judge how reactions to COVID-19 will affect education systems around the world, these are signs suggesting that it could have a lasting impact on the trajectory of learning innovation and digitization. The results of this study provide specific recommendations and best practice for future application of online distance learning. Since the Republic of North Macedonia decided to integrate online distant learning into all future higher education plans, the results of this research would be especially vital for all universities in the country.

## Recommendations

Hence, to succeed in the online teaching-learning approach, the crucial elements are as follows:

- To make sure that students are active and not passive learners in front of the screens.
- To establish a close teacher-student relationship, based on availability, friendliness and helpfulness, as this influences students' motivation to learn in a positive way.
- Teachers should look for appropriate ways to develop the learning process of their students and try to increase and motivate them any time.

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## Appendix: Sample survey questionnaire

<p>1. How often have you taken online courses before the COVID-19 pandemic?</p> <ul style="list-style-type: none"> <li>a. Never</li> <li>b. Hardly ever</li> <li>c. Sometimes</li> <li>d. Frequently</li> <li>e. Constantly</li> </ul>
<p>2. Which technology devices do you use to connect to your online classes?</p> <ul style="list-style-type: none"> <li>a. Cell phones</li> <li>b. Laptops</li> <li>c. PCs</li> <li>d. Any devices</li> </ul>
<p>3. How do you appreciate the online teaching-learning-assessment experience during the COVID-19 Pandemic?</p> <ul style="list-style-type: none"> <li>a. Possibility to connect to the Internet</li> <li>b. Availability and utility/efficiency of the online platforms</li> <li>c. The online learning was structured well</li> <li>d. I was able to prepare myself well in advance for the online learning (by script or book)</li> <li>e. Interaction and communication with teachers (teaching courses, conducting laboratories/seminars/other practical applications)</li> <li>f. Assessment/Examination</li> </ul>

<p>4. What would be the advantages of combining face-to-face education with online education?</p> <ol style="list-style-type: none"> <li>More diversified forms of assessment/examination</li> <li>Face-to-face communication and teacher-student interaction</li> <li>More flexibility-self-paced learning</li> <li>Ability to perform practical applications</li> <li>Less time in front of the screen, and more physical activities</li> <li>Direct communication with other students and the possibility of working in a group</li> </ol>
<p>5. What would be the disadvantages of combining face-to-face education with online education?</p> <ol style="list-style-type: none"> <li>Connectivity and online platform problems</li> <li>Stress/anxiety</li> <li>Difficulty for students to adapt to this way of learning</li> <li>Difficulty for teachers to adapt to this way of learning</li> <li>Lack of motivation</li> <li>Use of physical materials</li> </ol>
<p>6. What would be the main advantages of online education in the future?</p> <ol style="list-style-type: none"> <li>Flexible schedule</li> <li>Effectiveness</li> <li>Innovation and engaging ways of teaching</li> <li>Improved digital skills for students and teachers</li> <li>Economic savings</li> <li>Motivation to learn</li> </ol>
<p>7. What would be the main disadvantages of online education in the future?</p> <ol style="list-style-type: none"> <li>Empathy and adaptation from professors</li> <li>Inability to carry out practical applications</li> <li>Less face-to-face communication and interaction</li> <li>Explanations, questions and doubts</li> <li>Difficulties in assessing students and providing adequate feedback</li> <li>Working individually</li> </ol>
<p>8. One option for the development of the educational process in the new academic year is to combine traditional (face-to-face) education with online education. What do you think about this option, considering the learning needs of students?</p> <p>Some of students' responses:</p> <ul style="list-style-type: none"> <li>Mixed teaching combining face-to-face and online lessons so that some days we are at home to study and others at the University for Work.</li> <li>My preference is mixed teaching, because it allows us to get to know and handle both methodologies that are important for our future profession as doctors. Besides, it could be a good option to the preference of all students.</li> <li>In general, I would continue with the face-to-face model, because face-to-face lessons are much effective to use the materials that we need to get to the practices and that the whole group uses, and we can raise doubts about the work at the time.</li> </ul>