CHALLENGES AND ADVANTAGES OF ONLINE TEACHING DURING COVID-19 PANDEMIC

Ivana TOMIĆ, Ivan PINĆJER, Savka ADAMOVIĆ, Sandra DEDIJER, Neda MILIĆ-KERESTEŠ

Faculty of Technical Sciences, Department of Graphic Engineering and Design, University of Novi Sad, Serbia

Abstract: *In this work we were interested in how lecturers at the department of Graphic engineering and design perceived online teaching during Covid-19 pandemic, what they think are the main problems, advantages and disadvantages of online approach, and what were the biggest challenges they were facing in their work so far. Our colleagues filled a survey to answer all these questions, and to give us a better insight on how to improve the teaching process. The responses make it clear that the biggest challenge was to engage students and maintain their attention, as well as the lack of feedback during online classes. The problems our colleagues were facing were to adequately present practical processes, distractions from the members of their households, and technical issues mostly on the sides of students. In their opinion, the advantages of online teaching are the possibility to connect from any location and to adapt the environment to their own needs, as well as easier sharing of the material, while the biggest reported disadvantages were: difficulty to monitor students' progress and reactions, lack of socialization, too much screen time and prolonged class preparation time.*

Keywords: *Covid-19, challenges, advantages, lecturers, e-learning*

INTRODUCTION

Covid-19 pandemic has brought a lot of challenges to educational institutions and had changed the way how educational content is structured and presented. The lecturers had to adapt to the new way of presenting, and find the best manner to engage the students and monitor their performance. This was by no means an easy task, and required a lot of energy an effort, as well as technical and social skills.

Different strategies were employed by educational institutions. Some opted for entirely online teaching with synchronous and/or asynchronous [1] courses. In this case, good results in some study fields were obtained with flipped classroom approach [2]. Other institutions used combined model, where classes were only partially presented online (the rest taught face-to-face). The choice of the best option depended on the epidemiological situation and the readiness of the institution to support online learning. The majority of teachers, at least at the beginning, had to improvise, which affected the quality of the teaching and even led to the proposal of a new term: "emergency remote teaching" [3].

Our home institution, Faculty of Technical sciences, as well as the University of Novi Sad were more than prepared for the transfer to online teaching. The necessity to create an online learning platform was recognized a long before the Covid-19 pandemic took place, so lecturers were having a head start when the transfer happened. The technical literacy played an important role in adapting to the new way of teaching. In case of our lecturers, all had some prior experience with online learning, creating the content for online platforms, and many even participated in development of software tools and online solutions for sharing the knowledge related to graphic arts industry [4-6]. Hence, we all adapted rather quickly to teaching over Zoom and, after the first semester, over Microsoft Teams. University of Novi Sad Moodle-based platform was used for sharing the material.

Despite the technical literacy, availability of adequate communication software, excellent technical support etc., online learning was not without problems and challenges. Especially if it is observed in time of global social isolation and insecurity. Many issues were brought to light so far. Some authors [1, 7] mention that even though distance learning increase ICT skills, support work and education simultaneously and increase innovation, it raises the challenges such as digital divide, problems with communication and interaction, as well as plagiarism. The sense of isolation due to not having direct contact with students as well as too much screen time [8] also influence the motivation and effectiveness. The survey conducted by "The chronicle of higher education" [9] revealed that many professors feel stressed and overwhelmed, since they struggle not only to adapt their courses to the online form, but also to keep their students motivated.

Taking into account that the teaching content and the way of presenting it differs from one study field to another, we were curious to find out what were the main problems and challenges our colleagues from the department of Graphic engineering and design have faced in their work since the beginning of the pandemic, what they think are the main advantages and disadvantages of online teaching, and how they feel about the online teaching in the future. The goal was to share our experience so far and to pinpoint all the problematic aspects we can address in order to improve teaching process.

EXPERIMENTAL

To assess how our colleagues perceived online teaching, we formed an anonymous online survey that consisted of single-select and multi-select multiple choices questions. In most of the cases we allowed the possibility to add the answer that was missing, thus encouraging our colleagues to share their own thoughts. Predefined choices were determined on the basis of studies dealing with the effect of Covid-19 pandemic on higher education, overviews on e-learning [1, 7-10], and on authors' experience.

In the survey we asked about the problems and main distractors, advantages and disadvantages of online learning, but also about their experience in the efficiency of online teaching (if it had increased the students' performance and exams pass rate).

The big struggle the majority of us were facing was how to adapt the practical lab sessions to online form, so we also asked our colleagues on how did they solve this problem, and what was their preferred way of presenting online the processes/methods that were normally demonstrated face-to-face. In addition, we wanted to evaluate whether our lecturers would like to continue with online teaching (solely or in combination with traditional approach) and whether they think that it can replace the traditional forms of teaching in the future.

Sixteen lecturers from the Department of graphic engineering and design filled the survey. They were all aware of the purpose of the study, and all have prior experience with preparing content for online platforms.

RESULTS

For the lecturers in our department the biggest issue in online teaching was the lack of interaction/feedback from the students, followed by the problems to adequately present practical processes, technical issues both on the sides of students and their own, and the distractions from the members of their household (Figure 1).

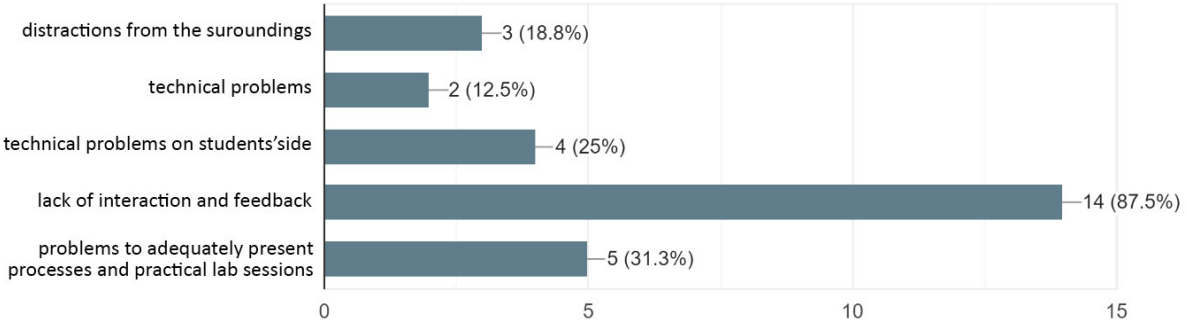

Figure 1: The main problems lecturers were facing in online teaching

The biggest challenges for our colleagues were: holding students' attention (56.3%), students' engagement (50%), lack of feedback during classes (50%), presenting the lab sessions (37.5%) and the lack of motivation and inspiration (6.3%).

Our lecturers think that the biggest advantages of online teaching in comparison to the traditional form are: the possibility to connect from any location (68.8%), possibility to adapt their surroundings to their own needs (56.3%), as well as the much easier sharing of the material (50%). Some also believe that the online mode enables more flexibility in teaching, since the content can be extended far from typical PPT slides. Sense of privacy was also mentioned by few.

The biggest drawbacks that were reported are mostly related to communication as seen in Figure 2. Lack of face-to-face communication, reflected as the inability to see students' reactions and monitor the performance of each and one of them, was the main drawback in comparison to traditional teaching. Also, lack of social interactions, as well as the prolonged class preparation time and too much screen time, were also noted as the disadvantages of online approach (Figure 2).

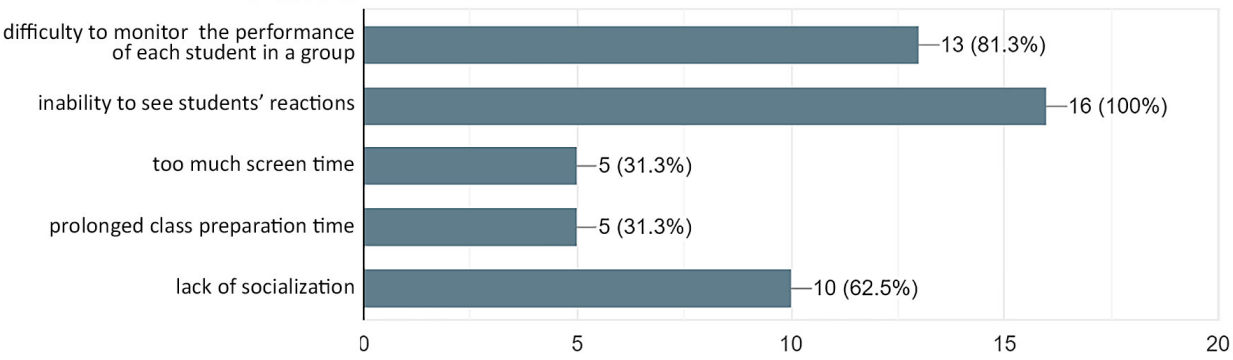

Figure 2: The main disadvantages of online teaching

Most of our colleagues opted to present their practical lab sessions in the form of static and video presentations, tutorials, and combination of the abovementioned. Also, 50% of them always turn on the camera, while 31.3% is doing it sporadically (turning the camera during lectures so that the students can see their facial expressions, but not during lab sessions in order not to increase the cognitive load). Both groups hope that turning the camera on during classes would encourage students to communicate more and provide them with the feeling of conventional classes.

The majority of our colleagues (68.8%) prefer Microsoft Teams over Zoom, 25% have no preference, while the rest gave their votes to Zoom. Microsoft Teams was chosen mostly due to all the options it provides – calendar, chat, possibility to store and share the files more easily, easier monitoring of the students' attendance and so on.

When asked if they would continue presenting their lectures online if given the opportunity, only one lecturer answered positively, while 68.8% gave the negative answer (the rest being undecisive). In case of computer labs, the situation is slightly different – 21.4% of respondents would continue presenting their labs online and 64.3% would go back to classic approach. For presenting practical sessions 92.3% of lecturers chose to go back to labs and 7.7% thinks that both approaches have their benefits.

Considering the exam pass rates, grades of the students in the last period, as well as the number of students who successfully submitted projects and other works required to pass the exams, more than the third of our lectures do not think that the online teaching have improved the students' performance (Figure 3).

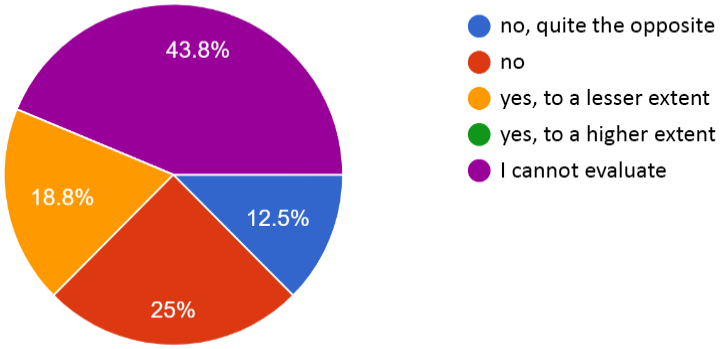

Figure 3: Answers to the question whether the students' overall performance increased during online teaching

Also, 37.5% of the examined lecturers do not think that the students belonging to generation-Z find online learning more suitable to their needs, while 15.1% have an opposite opinion (to the higher or lesser extent). As a conclusion, 56.3% of examinees do not think that the online teaching would ever replace traditional form, 25% thinks that it will eventually happen and to the higher extent, while 18.7% of lectures think that it will happen but to a lesser extent.

CONCLUSIONS

The online teaching is a demanding process, and it is even more so during Covid-19 pandemic. Lecturers faced not only the pressure to quickly adapt to the different way of presenting the content, but also the demand to engage the students, maintain their attention, and motivate them in a situation that was quite challenging for everyone. Lack of feedback during online classes together with the abovementioned were the main challenges lecturers at our home department faced in their work so far. The biggest problems our colleagues reported were distractions from the members of their households and technical issues mostly on the sides of students. Also, they had problems to adequately present practical lab sessions. In case of later, some opted to record the processes in question, while others combine video recordings with static content.

Even though online teaching enabled us to connect from any location, to be more creative with how we present teaching material and how we share information with our students, it came with a price. Undoubtedly, the biggest disadvantages as seen by our lecturers were not being able to see the students and thus monitor their reactions and performance, lack of socialization, too much screen time and prolonged class preparation time. Some of the lecturers tried to overcome the lack of face-to-face communication by turning on their cameras during classes and encouraging the students to do the same. It seems that the most of our lectures are eager to go back to aulas, since the majority prefer traditional way of teaching over online approach. Also, more than

a half of the examinees do not think that the online teaching could ever replace face-to-face knowledge transfer. Even though it might look like that at this point, where we all miss social contact, it is evident that we would all have to adapt to this new way of knowledge sharing. In that sense, we believe it is essential to give our best to understand and improve the online teaching process, at least in those aspects that are under our control.

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Corresponding author:

Ivana TOMIĆ
Department of Graphic Engineering and Design,
Faculty of Technical Sciences, University of Novi Sad
Trg Dositeja Obradovića 6, 21 000 Novi Sad, SERBIA
Phone: +381 21 485 2626
tomic@uns.ac.rs