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Students' Attitudes Towards Online Teaching and Communication During the Coronavirus Pandemic

Linda Juraković,[1] Sanja Tatković[1] and Petko Radulović[2]

[1]*Juraj Dobrila University of Pula*

[2]*University High School of Economics*

Abstract: The relevance of the researched problem is due to the need for monitoring online teaching during the coronavirus pandemic and improving teachers' skills in the process of online teaching and communication with students. The purpose of the research was to find whether there were statistically significant differences in students' positive attitudes towards online teaching conducted in three different study programmes and the communication between students and professors during the coronavirus pandemic. The following methods were used in the research: theoretical (analysis, synthesis, generalisation), diagnostic (Likert scale), statistics and graphical presentation of the results. Our research also shows that students have positive attitudes towards online teaching and communication with teachers. A contribution to such students' attitudes was probably given by the university teachers' existing online teaching skills as well as students' digital skills and competencies owed to the use of social networks. The research aimed to draw attention to the factors that are important for the implementation of quality online teaching in faculties at the time of the pandemic. It emphasised the importance of researching students' perception of the quality of online teaching and various aspects of communication with teachers at a time when they were unable to communicate live. Therefore, the research results can stimulate similar research in higher education to identify those factors that could contribute to the satisfaction of students and teachers with this type of teaching.

Keywords: monitoring the quality of education, monitoring communication, monitoring teachers' competencies, students' perception.

Introduction

After the lockdown due to the coronavirus outbreak, online teaching and learning at higher education institutions became a lifeline for thousands of students who had the opportunity to continue their education at a time when the whole world around them seemed to have stopped. The coronavirus pandemic, which has led to an unprecedented health and socioeconomic crisis that we are still living in and is going to scar our times for a long period, has severely impacted the entire higher education sector around the world (Marinoni et al., 2020). Many governments took rapid and concrete measures in order to avoid spreading the pandemic and to ensure the continuity of the educational process (Sobaih et al., 2020; Nambiar, 2020). Many organisations and associations involved in higher education, as well as student associations and organisations are conducting surveys with a specific focus on a region or on specific issues. COVID-19 has brought out a drastic change in the educational system, especially in teaching and learning methods (Ally, 2020). Online teaching became an irreplaceable tool for maintaining education at universities. Online learning and classes are

increasingly becoming part of education systems worldwide (Nambiar, 2020). "Both teachers and university students found themselves in a situation that the very day before was unimaginable" (Plavšić et al., 2021). Universities have focused on identifying ways to provide knowledge during the coronavirus pandemic. In a very short time they had to adapt educational processes for exclusively online teaching and learning (Diković et al., 2021; Shevchuk et al., 2021).

Online teaching produces many qualitative teaching and communication changes in the learning and teaching process such as temporal and spatial flexibility of learning and teaching, development of personalised learning, guidance, motivation and monitoring of students' work, and feedback on study and student progress (Levchenko et al., 2021). Nowadays, online teaching is crucial in the education systems of many countries. The research shows that online teaching and learning also stimulates innovation in the learning and teaching process, and encourages communication and social interaction. E-learning is also effective for acquiring knowledge and stimulating creativity among students (Zare et al., 2016; Berendieieva, 2021). During the coronavirus pandemic, it would hardly be possible to refer to teaching without the implementation of online learning.

In this context, it is interesting to recall that more than 15 years ago, the well-known educationalists Bognar and Matijević (2005), when describing personal communication (communication between two or more people) and apersonal communication (communication mediated by a technical medium) pointed out that "it will certainly never happen that personal communication is overcome or completely replaced by apersonal communication in an educational process", as well as that "the pedagogical values of direct communication are far above any apersonal communication". They also pointed out that these two forms of communication complement and enrich each other, but are by no means mutually exclusive. At the same time, Lavrentieva et al. (2020) assumed that the basic goal of interpersonal communication in teaching is to encourage meaningful and creative learning for lifelong learning and self-education, while Zrilić (2010) believed that when developing the quality of communication attention should be given during all teaching phases. In the 1990s, the well-known communicator Brajša (1994) advised that if educational processes in school are considered communication processes, at one end there is the teacher as the sender of the message, and at the other one there is the recipient, the student. A very complex communication dynamic takes place between them. In order for the message to be perceived by the students, they must hear it and understand it. This can be aggravated by mechanical interference (noise, slurred or quiet speech), but also by semantic interference (incomprehensible content). For this reason, the harmonisation of the sending and the receiving of the message during the conversation between teachers and students is the primary objective of a professional and successful conversation at school.

Today's society is based on the transfer of information, i.e., the processing, storage, availability, distribution and use of data with the help of information and communication technologies. Learning in such a virtual environment requires different ways of teaching and learning (Škugor & Borić, 2011). Students' education and teachers' training in higher education is not possible without the implementation of online learning and the application of modern information and communication technology (Tatković & Ćatić, 2009; Barbieri et al., 2015). Tatković and Močinić (2012) emphasise that the teachers' ability to work efficiently should be regarded in three areas that partially overlap: 1. working with information, technology and knowledge, 2. working with people — students, teachers, adults, associates and other partners in the education process and, 3. working within society at local,

regional, national, European and global levels. Looking upon education in today's coronavirus pandemic, these areas of education are becoming especially important because "in addition to knowledge, skills and values acquired through all subjects and cross-curricular topics, it is important to develop skills for virtual but also real/immediate social interaction (Tatković et al., 2016).

In the perspective of communication, it is possible that direct, social interaction will be neglected under the influence of social networks. Therefore, schools should determine what their main objective will be in educating people, i.e., take into account the development of interpersonal skills and positive interpersonal relationships (Tatković & Močinić, 2012). Observing teaching communication and education in the coronavirus pandemic conditions, these requirements represent a great challenge for education because modern media can change and are regularly changing human communication, and thus human society (Kebritchi et al., 2017).

By comparing face-to-face classrooms and online communication, it is possible to see that a face-to-face classroom setting can provide immediate student feedback about the quality of lessons, delivery, and experience. Upon entering the classroom, teachers establish immediate interaction with students. They can observe a students' body language (smile, look, hand movements, way of dressing, etc.), and these non-verbal cues help the teacher to immediately make adjustments in their teaching approach to best suit the needs of the students (Burac et al., 2019). Additional questioning and individualised attention in the classroom environment to gain a more detailed idea about the students' understanding of concepts being taught is a major advantage when compared to online channels. What might be easily perceived and approached in the classroom requires a little more probing and alertness in an online class (Nambiar, 2020).

Proponents of online learning state that students can be more actively engaged and communicate with teachers or other students using tools such as video conferencing, social media and discussion forums, etc. They believe that online learning, compared to traditional learning, provides easier access to online resources, databases, journals and other material that normally would not be easily accessed in a library (Lahoda, 2021). Should a student have difficulty understanding part of the subject, finding advice on it could not be easier than having immediate access to additional, unlimited and, usually free, material online. Moreover, online learning is designed to meet the needs of different types of students, who would not otherwise succeed in a traditional learning environment, as well as to complement a traditional multifunctional environment to make it even more appealing. However, the results of some studies (Nambiar, 2020) indicate that face-to-face learning can be perceived more positively than online learning in terms of social presence, interaction, satisfaction and overall quality. Even though online classes can be convenient in terms of saving time, still, both teachers and students deem it less effective and structured when compared to the classroom mode of learning.

Today's students are very skilled users of online learning and social media. At the same time, competent teachers are needed in pandemic times (Popa et al., 2020; Nambiar, 2020). Kudriavtseva and Solodovnik (2021) and Tatković, and Močinić (2012) in their research dealing with teachers' competencies, emphasised the importance of revising the initial teacher's education according to the knowledge and advantages provided by ICT, so that they could be able to respond to the challenges of the future. These suggestions have proven to be useful.

In the context of the coronavirus pandemic, universities are fully relying on the power of online learning, given that they are under great pressure to provide students with the necessary education as well as to achieve teaching content and its primary function by using online teaching. The predictions of Sahlberg (2012) have come true. Ten years ago, he warned that in the future people would devote even more time to media and communication technologies and that "new social tools will expand opportunities for creative activities because people will be able to participate in open source projects, designing games or digital solutions in collaboration with other participants in these networks".

Research Objectives

The purpose of the research was to determine whether there were statistically significant differences in students' positive attitudes towards online teaching conducted in three study programmes during the coronavirus pandemic. It is hypothesised that there is no statistically significant difference in the positive attitude towards online teaching between students of Computer Science and those of Preschool Education. It is hypothesised that there is no statistically significant difference in the positive attitude towards online teaching between students of Computer Science, Preschool Education students and Teacher study programme students.

H1: There is no statistically significant difference in the positive attitude towards online teaching between students of Computer Science and those of Preschool Education.

H2: There is no statistically significant difference in the positive attitude towards online teaching between students of Computer Science, Preschool Education and Teacher study programme. The Likert scale of positive attitudes towards computational thinking with five levels (from 1 – I completely disagree to 5 – I completely agree) was used for the research.

Methods

In the first stage, a theoretical analysis of existing research was used. The literature and similar research have been studies and analysed. In the second stage, a diagnostic method was used. A query based on the Likert scale with 11 questions and five offered answers was used. In the third stage, statistical methods were used (descriptive data analysis, t-test for independent samples and ANOVA, and graphical data representation. The reliability of the scale was checked. The Cronbach's Alpha coefficient is 0.862, showing that the scale is reliable, i.e., there is an internal consistency of the scale. Next, the suitability of the scale for factor analysis was established, i.e., the KMO test was conducted. The KMO indicator was 0.853, the Bartlett test of sphericity was 0.000 and $p < 0,05$, respectively, the data being suitable for factor analysis.

Population and Sample

The research was carried out in June 2020 when, due to epidemiological measures taken during the coronavirus pandemic, the university shifted to entirely online classes. The questionnaire was administered online using the free Google forms programme. Students were invited to take part in the survey during the final weeks of the semester. They were asked for consent and they gave their answers anonymously. Its administration took up to 15 minutes. The research was carried out with the approval of the University Ethics Committee. The focus of interest were the differences in the attitudes of students of the Faculty of Informatics and the Faculty of Educational Sciences at the Juraj Dobrila University of Pula towards online classes. The research was conducted on three independent samples. The first sample ($n = 26$) consisted of undergraduate and graduate students of the Computer

Science study programme at the Faculty of Informatics in Pula. The second sample (n = 29) consisted of undergraduate students of the Preschool Education study programme at the Faculty of Educational Sciences in Pula, and the third one (n = 63) consisted of students of integrated undergraduate and graduate Teacher study programme at the Faculty of Educational Sciences in Pula. The samples represent three different study programs at the Faculty of Educational Sciences in Pula.

Tools Used

First, a descriptive frequency analysis of Likert scale was performed (Table 1).

Table 1. Descriptive Frequency Analysis

	Question Denomination											Average
	1	2	3	4	5	6	7	8	9	10	11	
N	118	118	118	118	118	118	118	118	118	118	118	118
Mean	3.98	3.30	2.84	3.18	2.87	3.64	3.72	3.21	4.46	3.76	3.60	3.50
Median	4.00	3.00	3.00	3.00	3.00	4.00	4.00	3.00	5.00	4.00	4.00	
Mode	4	3	3	5	3	5	5	3	5	4	5	
Std. Dev.	0.974	1.161	1.262	1.459	1.248	1.339	1.268	1.340	0.946	1.079	1.361	
Variance	0.949	1.348	1.593	2.130	1.558	1.792	1.609	1.794	0.895	1.165	1.853	
Min	1	1	1	1	1	1	1	1	1	1	1	
Max	5	5	5	5	5	5	5	5	5	5	5	

Question denomination:

1 - I can easily find a "common language" with professors using online communication.
2 - I often communicate with professors about exam materials in online classes.
3 - Online communication with professors gives me clearer answers to the questions asked than when communicating "live".
4 - I prefer online communication for consultations with professors to the "live" ones.
5 - Communication with professors in online classes is more dynamic and interesting than in the "ordinary" ones.
6 - Communication with professors in online classes will not make it difficult for me to apply in practice what I have learned.
7 - Communication with professors in online classes will not make it difficult for me to understand the new materials.
8 - In online classes, technical difficulties are not an issue for me when communicating with professors.

9 - My computer knowledge is not an issue for me when communicating with professors in online classes.
10 - I am satisfied with the level of communication with professors in online classes.
11 - When the pandemic is over, online communication should be used more for communicating with professors.

Procedure of Data Collection

The descriptive analysis (Table 1) shows that students answer the questions (denomination 1 and 9 – white on the chart) very positively (average score 3.98 and 4.46). Other questions are also assessed above average (above score 3), except for questions denominated 3 and 5 (Online communication with professors gives me clearer answers to the questions asked than when communicating "live", Communication with professors in online classes is more dynamic and interesting than in the "ordinary" ones), where the scoring is much lower (2.84 and 2.87) (Fig. 1).

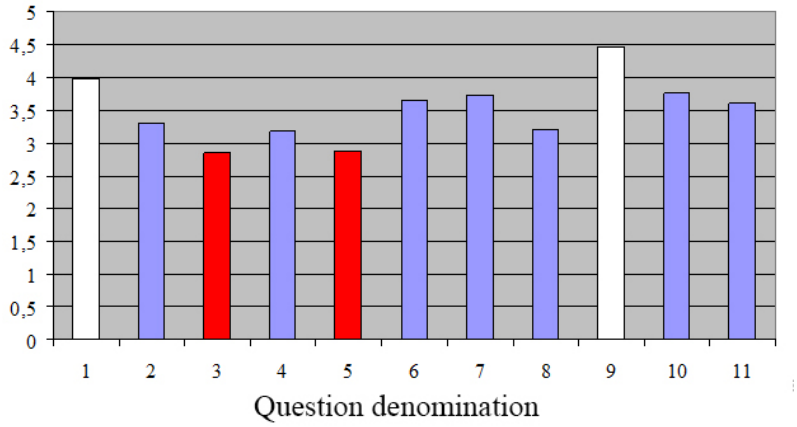

Figure 1: Graphic representation of results

Then, the reliability of the scale was checked. The Cronbach's Alpha coefficient is 0.862, showing that the scale is reliable, i.e., there is an internal consistency of the scale. Next, the suitability of the scale for factor analysis was established, i.e., the KMO test was conducted. The KMO indicator was 0.853, the Bartlett test of sphericity was 0.000 and $p < 0,05$ respectively, the data being suitable for factor analysis. The Correlation Matrix shows that most correlation coefficients are higher than 0.3. The Total Variance Explained (Table 2) under the Initial Eigenvalue header shows that two components have a value above 1, also visible from the Scree Plot (Fig. 2), and that they explain 54.348 percent of the variance.

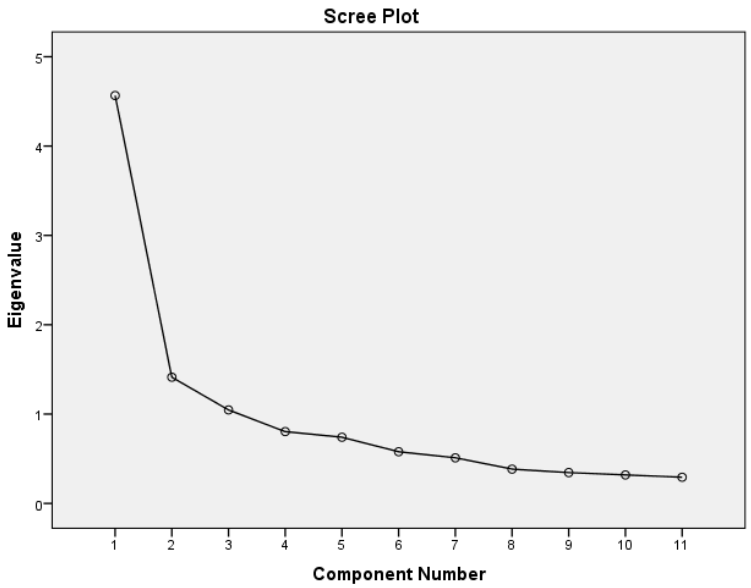

Figure 2: Scree Plot

Table 2. Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.566	41.506	41.506	4.566	41.506	41.506
2	1.413	12.842	54.348	1.413	12.842	54.348
3	1.046	9.513	63.861	1.046	9.513	63.861
4	0.804	7.307	71.169			
5	0.741	6.735	77.903			
6	0.578	5.258	83.162			
7	0.511	4.643	87.804			
8	0.384	3.493	91.297			
9	0.345	3.137	94.434			
10	0.319	2.899	97.334			
11	0.293	2.666	100.000			

Extraction Method: principal component analysis.

The normality of distribution was determined (Kolmogorov-Smirnov test, p = 0.928) and it was concluded that an independent t-test could be conducted. The arithmetic mean of all scale particles was calculated and a t-test for independent samples was carried out. A t-test for independent groups was carried out in order to determine whether the attitudes of Computer Science students was different from those of Preschool Education students.

Results

Results Related to Hypothesis 1

It was found that Computer Science students (M = 3.6259; SD = 0.78890) did not have a statistically significant different attitude from Preschool Education students (M = 3.3480 SD = 0.75126) when it comes to a positive attitude towards online teaching (t = 1.338, p = 0.187 > 0,05, df = 56), i.e., both have a positive attitude towards online teaching and the first hypothesis was confirmed. Then, a one-way

analysis of variance for independent samples was carried out. Now, the sample also included the Teacher Study programme students (n = 63, M = 3.517 SD = 0.788), along with Preschool Education students (n = 29) and Computer Science students (n = 26). Given that it is now a matter of testing the difference between the three arithmetic means, a one-way analysis of variance for independent samples was used (ONE-WAY ANOVA). The following results (Fig. 3) were obtained.

Table 3. ANOVA Results

Table 3.1 Descriptives

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Computer Science	26	3.6259	0.78890	0.15472	3.3072	3.9445	1.82	4.82
Preschool Education	63	3.5166	0.78828	0.09931	3.3181	3.7151	1.64	5.00
Teacher Study	29	3.3480	0.75126	0.13950	3.0622	3.6337	2.09	5.00
Total	118	3.4992	0.77893	0.7171	3.3572	3.6412	1.64	5.00

Table 3.2 Descriptives

Levene statistic	df1	df2	Sig.
0.324	2	115	0.724

Table 3.3 ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Between groups	1.100	2	0.550	0.905	0.408
Within groups	69.888	115	0.608		
Total	70.988	117			

Results Related to Hypothesis 2

The variance homogeneity test found that the condition for analysis of variance was met $p = 0.324$ ($p > 0.005$). After that, the analysis of variance was conducted $p = 0.408$ ($p > 0.005$), so we can determine that the difference was not statistically significant, i.e., there was no statistically significant difference in the positive attitude towards online teaching among the students of all three study programmes and the second hypothesis was confirmed. The processing was performed with SPSS for Windows 20.0.0. The research results show that there was no statistically significant difference in students' attitudes towards online teaching, in spite of the fact that they attended different study programmes, at different levels and in different faculties.

Given that the sample also consisted of students who were not Computer Science students (Preschool Education and Teacher study programme students), it is possible to assume that they have had online learning skills since before the pandemic, inasmuch as the results show they have positive attitudes towards online teaching organised during the coronavirus pandemic. It is assumed that the previous

knowledge and skills of using information and communication technology (ICT) and networks were acquired during face-to-face classes (in the classroom) as well as after passing the exam "Use of ICT in teaching" (which is an integral part of their study programmes).

Positive attitudes towards online teaching among Computer Science students are expected given the nature of their study and the large number of IT subjects they attend and the related exams they take. A contribution to such students' attitudes was probably given by the university teachers' existing online teaching skills. It should be noted that additional training for conducting online classes and using networks was organised for all teachers at the beggining of the pandemic. In addition, most teachers have been using ICT since before the pandemic, i.e., they had previous IT knowledge and skills they could apply during the pandemic. We can conclude that, although the pandemic surprised everyone, the faculties, students and teachers of that university possessed the necessary competencies for such an unexpected situation.

The descriptive analysis figure shows that students answered the questions (denomination 1 and 9 – white on the chart) very positively (average score 3.98 and 4.46). Other questions were also assessed above average (above score 3). On the basis of these results, it can be concluded that the specified aspects of online teaching and communication with teachers (described in the statements 1 - 9) were successful during the pandemic and that the transition from face-to-face teaching to online teaching had no negative effects. That can be explained by the fact that this is a generation of young people living in a digital age who are not unfamiliar with online teaching and possess good digital competences.

If we analyse in detail the students' attitudes related to statements 1 - 9, we can conclude that they easily find a "common language" with professors using online communication, often communicate with professors about exam materials in online classes, prefer online communication for consultations with professors and consider that online teaching would neither present difficulties in applying the acquired knowledge in practice nor in understanding the new material. In addition, technical problems occurring during online classes are not an issue for communicating with professors and they believed they have enough previous IT knowledge to communicate with teachers in online classes.

Very positive responses were shown regarding the statement, "When the pandemic is over, online communication should be used more for communicating with professors". The last statement confirms our assumption that online teaching was not new to students. However, our research also showed that two statements (3 and 5), referring to the clarity of communication, the dynamics and eagerness to comunicate with teachers were given rather a low score (2.84 and 2.87). Statement 3 is the following: "Online communication with professors give clearer answers to the questions asked than when communicating "live", while statement 5 is "The online communication with professors is more dynamic and interesting than in then the face to face communication."

It is obvious that improvements are needed here and that in some segments of online teaching students evaluated the face-to-face teaching more positively (although the average score is satisfactory, amounting to 3.50). If we compare these results with similar research (Sun et al., 2020) it is clear that online teaching should not simply copy traditional teaching and try to "translate" it into online teaching. Online teaching must be interactive and innovative while also using 5G technology and artificial intelligence in the future. In the abovementioned Chinese research, students rated the focus

on teaching (self-discipline) and control of the pace of learning the worst, i.e., situations that are more dependent on them (the students) and less on technology and teachers. On the contrary, what depends on teachers and the environment (technology) was rated the best.

Based on the expressed satisfaction with online teaching and communication with teachers, it can be concluded that the university and faculties where online teaching was organised and the research carried out were well prepared for the upcoming learning and teaching crisis period and that students and teachers have had the necessary competencies to attend and execute this type of teaching. Students' attitude towards statements 10 and 11 (10 - I am satisfied with the level of communication with professors in online classes, 11 - When the pandemic is over, online communication should be used more for communicating with professors) (scores 3.7 and 3.6, respectively) also confirm students' satisfaction with online teaching and the communication with teachers as well as their desire to use this form of communication more frequently once the pandemic is over. We assume that this type of communication with teachers is especially suitable for commuter students, i.e., those residing outside the metropolitan area where the university is located.

Discussion

Taking into consideration the positive aspects of online education but also the obstacles mentioned above, we believe that the transition to exclusive online teaching and learning affected the educational process and the communication between students and professors. According to the pedagogical research, the teachers have to meet four major online education challenges in order to be able to teach successful online courses and improve their professional development for online and blended learning, and they are the following: demonstrate pedagogical skills in the online classroom, address their managerial role, establish relationships with students, and provide technical support (Philipsen et al., 2019). Odit-Dookhan (2018) investigated students' attitudes towards e-learning that reveals they were positive and even enhanced when they perceived that e-learning systems were easy to access.

The Romanian study (Coman et al., 2020) shows that when learning exclusively online, some of the benefits and advantages previously mentioned diminish in value while disadvantages become more prominent. The universities were not ready to implement exclusively online teaching and learning. Students considered the online educational process less valuable than the traditional face-to-face process, believing that it was more difficult to study and stay focused online. They also preferred the use of e-learning platforms in combination with traditional face-to-face teaching/learning to facilitate the educational process. The study also shows that it is possible for online learning to affect students' performance because respondents reported poor assimilation of information, especially when attending more difficult courses in which professors did not have well-suited teaching methods. During online teaching, very few students had the courage to express their opinions or to write in forums because they felt more exposed. Furthermore, the students felt they didn't have the courage to speak up out of fear of being ridiculed. It is interesting that a larger number of bachelor's students mentioned that online teaching was much more difficult than offline teaching, and master's students were more open to the use of the online environment in the learning process and they were more satisfied with their online experience.

Our research showed students' satisfaction with online teaching and the communication with professors and did not show any differences in students' attitudes in relation to the level of studies they attended, the quality of communication with professors related to exam materials, the understanding of the teaching contents and clarity of teaching, dynamism and interesting nature of teaching. Given previous experience, they had no problems using technical means. So, our findings are consistent with the results of Sun et al. (2020) who conducted research among about 40,000 students at Southeast University in China. Most of the Chinese students believed that the planned teaching objectives were fully attained and agreed that in addition to maintaining continuity of education, the teachers brought positive energy during classes to help them combat mental stress as the outcome and consequence of the quarantine. The Chinese students were less enthusiastic when asked about 'focus and restraint' and assigned it a relatively low score, clearly implying a greater need to improve self-discipline and concentration. They also noted an unstable network speed, noisy environment and a lack of professional equipment provoked their distraction, and recommended combining recorded videos and live courses with more online interaction to mitigate the impact of unstable networks and increase students' participation.

Our research shows that our students and professors adapted quickly to online teaching because they had been using e-learning platforms (Moodle, ZOOM, BigBlueButton, Google and others) prior to the coronavirus outbreak. However, some research points to some problems encountered by students and professors. Aboagye et al. (2020) revealed that some higher education institutions were not prepared for exclusively online learning, and that also teachers and students were not prepared for the sudden shift to exclusively online learning and teaching. They were aware they needed time and more effort to adapt to the new learning and teaching situation, trying to find new strategies to adapt and meeting new challenges. The study of Fatani (2020) illuminated the importance of satisfying the growing demands for online education while maintaining a worthwhile student learning experience. The author emphasises that teaching effectiveness and quality of education relied also on cognitive and social presence, and not only technology. In addition to technical support availability, the following areas are important for teachers' and students' satisfaction with online classes: quality and timely interaction and communication between students and professors, conducting online classes, teaching methods and assessment procedure, students' perception about the use of the online environment, and the relations and communication with professors (Coman et al., 2020).

Conclusions and Recommendations

Online teaching is an environment completely different from classroom teaching, therefore, it is not possible to simply duplicate the content of traditional classroom lessons. Our research has pointed out some areas that are important for the satisfaction of students and professors with online teaching and learning, and they are the following: interaction among students, timely interaction between students and professors, innovative course content, technical support availability and flexibility of online courses compared to face-to-face ones. When teaching online, it is necessary to turn students from passive recipients to engaged learners through interactive question-and-answer sessions, presentations and open discussions. In the research process, new questions and problems arose that needed to be addressed. It is necessary to continue the research on the development of online teaching and learning, because it is not possible to transfer the face-to-face teaching methods to online teaching and learning. Online education requires new competencies from teachers, enabling them to organise

interesting, proactive and dynamic teaching processes, which will facilitate the implementation of learning outcomes provided by study programmes.

Focused on the development of the quality of education, universities may take this unforeseen opportunity to detect deficiencies, to turn this emergency into an occasion to share the experience on the international level and to promote further international collaboration in order to speed up the quality of international education, with the aim of building a global online education network. The materials of the article could be valuable for other similar research on online teaching in higher education and in different countries, with the aim of making comparisons of the results and improving students' and teachers' attitudes towards online learning in different study programmes and on different study levels.

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Authors:

Linda Juraković is a Doctor of Economics and Assistant Professor at the Department of Early and Preschool Education, Faculty of Education, Juraj Dobrila University of Pula, Croatia**.** Email: jurakovic8187@edu.cn.ua

Sanja Tatković has a Master's of Psychology and is an Assistant Professor at the Department of Early and Preschool Education, Faculty of Education, Juraj Dobrila University of Pula, Croatia.
Email: tatkovic8187@neu.com.de

Petko Radulović is the Headmaster of the High School of Economics in Pula, Croatia**.**
Email: radulovic8187@acu-edu.cc

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