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THE STUDENTS' PERCEPTION OF THE ONLINE TEACHING-LEARNING DURING COVID-19 PANDEMIC

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ABSTRACT. The Covid-19 outbreak forced educational institutions to shift from face-to-face to online teaching-learning in a very short time. The students and teachers had to learn by doing and to adapt quickly. Therefore, the focus of this study was to examine the main determinants of students' perceived learning experience and satisfaction with the online classes. The data was gathered from bachelors' students. The quantitative approach was implemented to analyse the subject. The findings show positive influence of faculty support, course design and students' involvement on the students' perceived learning experience through the e-learning platform and online classes. The student satisfaction with online teaching-learning is predicted by the perceived learning experience through the e-learning platform and online classes. The findings also emphasize the role of information and communication technologies (ICTs), as in the digital era the use of e-learning platforms is essential for the educational institutions.

Keywords: online teaching-learning, student's satisfaction, learning experience, faculty support, course design, students' implication, e-learning platform, Covid-19 pandemic

JEL Classification: M10, M12, M15, M54

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Introduction

The consequences of Covid-19 pandemic on the learning-teaching systems are a very actual topic, as these influenced everyone implicated in the face-to-face education system. The motivation for this research and topic is to understand how it has been for students to learn and adapt to a new system after spending their whole educational life in a face-to-face learning system. One of the most important changes that happened was the impact of this pandemic on innovation of online platforms and consequently on the digitalisation of the education systems. As humans have an outstanding ability to adapt, this was exactly what was expected of the learning platforms providers and teaching staff when this pandemic hit. The online platforms improved to answer to the needs of educational systems, while the educational institutions converted to using e-learning platforms to achieve their goals in the time of crisis and as seen today to adopting ICTs.

Facing the limited mobility during the Covid19 pandemic, educational organizations had to shift to online teaching and learning, conquering challenges like technical infrastructure, lack of resources and the mandatory quickly adaptation to the digital transformation (Mishra, Gupta, & Shree, 2020). In Romania, starting with March 2020 universities had been shut down. Thus, these institutions had to find new ways to complete their tasks, deciding how to deal with the situation. Suddenly, students had to participate to online classes and professors had to learn by doing how to teach online. In the transition to the online environment, the universities had to rethink how to deliver courses and their content (Paul & Jefferson, 2019). Faculties had to decide on the most suitable e-learning platform to use for their activities. In this process teachers and students learned to adapt and to use new technologies.

The education institutions were left to decide for themselves how they were going to deal with this crisis situation, and this is the point where innovation came into the picture. Because there was no such thing

as a predefined protocol to follow in a case of a global pandemic, everyone had to figure out things on their own. It is worth mentioning that in the case of the Faculty of Business everyone did their job as good as they possibly could in such a short amount of time. As a result of everyone's efforts, especially professors, students were soon able to join the first online classes. At first, different platforms were tested, such as Skype, Zoom, Google Meet or even Discord. There was not a single platform with applications suitable for all teaching and learning activities, therefore a combination of platforms was used. This of course led to the dislike of this situation, because honestly it was difficult for students to change platforms from one course to another. In May 2020 there were decided to start using Microsoft Teams platform which is still in use today. There were challenges for both students and teachers. Students had to learn how to use different platforms and it was also challenging for them to maintain their focus and to sit in front of a computer for many hours. Teachers had to get acquainted, in a very short period of time, with different platforms that would allow them to deliver the courses and the seminars and of course they had to adapt their teaching methods to online learning.

The aim of this article is to present a holistic image of online teaching-learning activities in time of lockdown period based on students' perception, who experienced this during Covid-19 pandemic. Therefore, the study examines the main determinants of students' perceived learning experience and satisfaction with the online classes.

The remainder of the paper is structured as follows: next section is dedicated to a brief literature review that served as a foundation for the formulation of the research hypotheses, followed by the presentation of the research methodology and the results. The final section of the paper presents the main conclusions, the limitation of the study and some future research directions.

Literature review

In order to gain an insight, the relevant literature was investigated to understand the students experience with the online teaching-learning during lockdown.

The online learning refers to the learning taking place using custom design technology enhancing access to information (Conrad, 2002), connectivity, mobility, and interactivity (Ally, 2004). It also offers access to distance learning (Alawamleh, Al-Twait, & Al-Saht, 2020). As the use of ICTs in teaching and learning increases, the focus of higher education is gradually shifting from provider to learner when it comes to enhancing the online learning of individual students (Tsang, So, Chong, Lam, & Chu, 2021).

The online teaching and learning environments involve ICTs. E-learning was widely used especially in the Covid-19 pandemic period. Some benefits of online learning are engagement with course materials, less withdrawal (Nguyen, 2015), availability to larger number of students, being easily accessible and convenient (Alawamleh, Al-Twait, & Al-Saht, 2020). To comprehend the students' online teaching-learning experience and perspective is important to investigate the main determinants of students' satisfaction. The following described variables describe students' perceived learning experience through e-learning platform and online classes that further predict student satisfaction.

Faculty support

The support received by students from the faculty was vital in the emergency situation of unexpectedly and rapidly change of the teaching-learning process from face-to-face to online classes (Tsang, So, Chong, Lam, & Chu, 2021). Providing the access to support available for students was expected and planning ahead was required to overcome challenges easier. It was necessary in terms of technical support (Eom, Ashill, & Arbaugh, 2012; Duque, 2013) and for peer and institutional support (Lee, Srinivasan, Trail, Lewis, & Lopez, 2011). The study of Eom & Ashill (2016) on the role of information technology in e-learning systems, identified that system use, and user satisfaction are influenced by system quality and information quality. In the digital era, learners want to have access to information from anywhere at any time through high quality programs (Paul & Jefferson, 2019). All managerial and technical issues with online classes are problems to be solved in time by the faculty (Sekret, Durmus, Gurer, & Curaoglu, 2019). Thus, the following hypotheses were issued:

H1.a. The faculty ensured support influences the student perceived experience through the teaching-learning platform.

H1.b. The faculty ensured support influences the student perceived experience through the online classes.

Course design

A quality online learning environment is offering students access to well-structured course materials, learning activities and interactions (Tsang, So, Chong, Lam, & Chu, 2021). User-centred design strategies are recommended for online courses. The course design should support a collaborative, engaging and interactive virtual learning environment considering the human computer interaction principles and approaches (Bayyat, Abu Muaili, & Aldabbas, 2021). Also, the students' needs, preferences and skills must be considered (Iniesto, 2017). A very clear, proper, and adapted planning of the courses for online interaction with students is part of teachers' preparation of each lecture (Mishra, Gupta, & Shree, 2020). The instructors have to facilitate students' active participation during the online lectures (Sekret, Durmus, Gurer, & Curaoglu, 2019).

Kampov-Polevoi (2011) presents a framework for the analysis of online course design constructed on the influencing factors. Furthermore, Norman (2019) proposes a framework for developing online courses based on the learning theories and identified instructional design models. As teachers have to motivate the learners, the course design should be created using a motivational model (Norman, 2019). Student's perceived learning outcome is significantly influenced by the clarity of course design and the active discussions (Swan, 2001). Eom and Ashill (2016) suggests shifting the focus from e-learning system factors to design and human factors in online learning environment. In these regards the following statements can be expected. Consequently, two hypotheses were assumed:

H2.a. The course design influences the student learning experience through the teaching-learning platform.

H2.b. The course design influences the student learning experience through the online classes.

Student implication

The actions of students are based on their motivation to learn and participate (Harmon-Jones, Harmon-Jones, & Price, 2013; Lee, Srinivasan, Trail, Lewis, & Lopez, 2011). Some studies found the student-teacher interaction being significant for student perceived learning and satisfaction (Baber, 2020; Swan, 2001). Furthermore, the student's involvement (Devisakti & Ramayah, 2019), having a proactive behaviour, and active learning are positively related to learning outcomes (Tsang, So, Chong, Lam, & Chu, 2021). Self-management of learning is one key element in learning success, as students with high level of self-regulated learning skills have better results and attain deeper learning outcomes (Bayyat, Abu Muaili, & Aldabbas, 2021). The student learning initiative implies an active and self-starting approach to overcome challenges and to achieve goals, thus leading to higher learning performance (Huang & Yu, 2019). These lead to the statement of the following hypotheses. Thus, the following assumptions can be concluded:

H3.a. Student implication affects the perceived learning experience through the e-learning platform.

H3.b. Student implication affects the perceived learning experience through the online classes.

Student perceived learning experience and satisfaction

The student interaction with the teachers and with the course content is significantly influencing the perceived learning outcomes (Marks, Sibley, & Arbaugh, 2005). The information received by the student influences the level of confident acceptance of information, in terms of usefulness, necessity and satisfaction. The student response to the use of information system is further defining the student satisfaction and learning outcomes (Eom & Ashill, 2016). On the base of easy access to information and received technical support, the teaching-learning process attempts to reach its goals and students recognize the results of their effort (Tsang, So, Chong, Lam, & Chu, 2021).

Satisfaction with course activities has been considered a dependent variable in distance learning studies. It's difficult to differentiate the learning outcomes from satisfaction. Since studies identified convenience

and flexibility features of online learning (Huang & Yu, 2019), students' satisfaction is related not only to students perceived learning outcomes (Marks, Sibley, & Arbaugh, 2005).

Several studies identified the positive correlation between learning outcomes perceived by the students and their satisfaction with online learning (Baber, 2020; Duque, 2013; Ikhsan, Saraswati, Muchardie, & Susilo, 2019; Marks, Sibley, & Arbaugh, 2005; Swan, 2001; Tsang, So, Chong, Lam, & Chu, 2021).

Studies show that face-to-face teaching is more dynamic than online teaching and it also is well-established (Kemp & Grieve, 2014; Paul & Jefferson, 2019). However, the online teaching-learning process will advance, and students will adapt to online learning. The appropriate support is mandatory in terms of guidelines and counselling while challenging students to engage in online teaching and learning. The providing of immediate support and communication between teachers and students impacts the students' learning outcomes and satisfaction (Lee, Srinivasan, Trail, Lewis, & Lopez, 2011).

The quality of the information system used affects the behaviour of recipient, in e-learning context interpreted as learning outcomes, this including perceived satisfaction with online course and delivery medium (Eom, Ashill, & Arbaugh, 2012). The student's perception of support, the appropriate structure of course materials, and effective communication are positively correlated to perceived learning experience (Lee, Srinivasan, Trail, Lewis, & Lopez, 2011). Mullen & Tallent-Runnels (2006) mentioned perception of learning in class as motivation, self-regulation, and students' satisfaction.

The learning outcomes and student satisfaction are widely considered indicators of the effectiveness of online education (Eom, Wen, & Ashill, 2006). Otherwise, teaching and learning being seen as a learning system, between the system use and the user satisfaction is a reciprocal correlation. Both, system use and user satisfaction predict the impact on the student, and this further is impacting the organisation (Eom, Ashill, & Arbaugh, 2012). The student learning outcomes were measured based on students achievements in some cases (Tsang, So, Chong, Lam, & Chu, 2021) while in other studies those were not considered (Lee, Srinivasan, Trail, Lewis, & Lopez, 2011; Mullen & Tallent-Runnels, 2006). Also, some studies included a

comparison between online and face-to-face learning results (Eom & Ashill, 2016). For this study, the comparison of results between online and face-to-face classes was not possible for most of the respondents due to the three academic years during the pandemic, so the study focused on the perceived learning experience through the e-learning platform and online classes. In this manner, the following statements were presumed:

H4a. The student perceived learning experience through the e-learning platform has a positive impact on students' satisfaction with online teaching-learning.

H4b. The student perceived learning experience through the online classes has a positive impact on students' satisfaction with online teaching-learning.

Research methodology

The research was carried out using quantitative methodology to investigate the students' perception of online teaching-learning during Covid-19 pandemic. The data was collected in May 2022 through the questionnaire research instrument. The inquiry form was distributed online to the undergraduate students of the Faculty of Business who were studying onsite before the pandemic outbreak. The questionnaire was developed both in English and Romanian, since these are the two languages in which courses are taught in this institution. It contained mainly structured questions and two open-ended questions.

The respondents experienced online teaching-learning during Covid-19 pandemic lockdown and their perception of online teaching-learning was analysed. The studied variables shown in Figure 1 were identified from previous research papers (Baber, 2020; Eom & Ashill, 2016; Tsang, So, Chong, Lam, & Chu, 2021) and the responses to the items of each variable were rated on a seven-point Likert scale (1=strongly disagree and 7-strongly agree) (Vagias, 2006). The variable faculty support was considered through the clear guideline provided, how well students were informed of the arrangements of the online classes, the effort paid to ensure the online classes run smoothly, and the offering of instant technical support when needed. The course design was constructed on how interesting and stimulating were the course materials, how the course was organised into

logical and understandable components, and overall, how many effective challenges the course offered. The student implication was measured in terms of spending more time to learn and study, to reflect over the lectures and asking the teacher more questions during the online classes than in face-to-face classes. These three constructs were validated by previous study of Tsang, So, Chong, Lam, & Chu (2021). The students' perceived learning experience was measured in terms of the pleasant experience with the e-learning platform and the online classes. Student satisfaction was determined by the overall sense of contentment with the online teaching-learning. The Figure 1 presents the research framework structure.

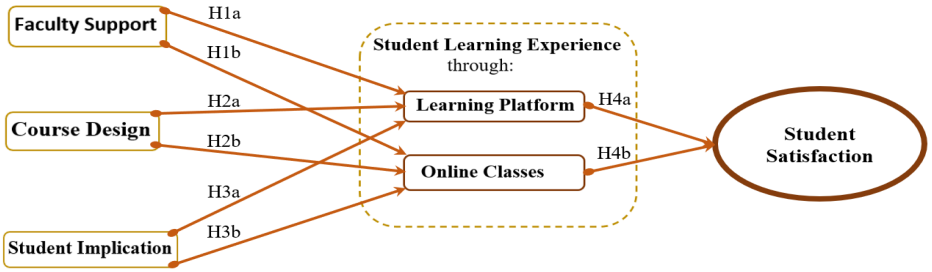

Figure 1. Research framework

Source: authors' compilation

Sample characteristics

The study sample included 80 students, 32 male respondents, 47 female respondents and 1 respondent preferred not to say. The respondents were 33.75% in the 1st bachelors' year, the same percent in the 2nd bachelors' year and 32.5% in the 3rd studying year. 70% of the students were studying Business Administration and 30% Business Administration in Hospitality Services.

Results

The free statistical software PSPP was used to carry out the data analysis. In Table 1 are visible the mean, standard deviation, Kurtosis and Skewness values of all items. The values of the Kurtosis and Skewness coefficients are between -2 and 2 (except for one item C.D.1) showing the analysed items follow a normal univariate distribution (George & Mallery, 2002).

Table 1. Descriptive statistics of the items

	F.S.1	F.S.2	F.S.3	F.S.4	C.D.1	C.D.2	C.D.3	S.I.1	S.I.2	S.I.3	S.L.E.eP	S.L.E.O.C	S.S
N Valid	80	80	80	80	80	80	80	80	80	80	80	80	80
Missing	0	0	0	0	0	0	0	0	0	0	0	0	0
Mean	5.22	5.41	4.63	5.36	5.49	4.95	5.24	4.17	4.41	4.74	5.38	5.13	5.05
Std Dev	1.50	1.57	1.80	1.54	1.38	1.57	1.35	1.97	1.66	1.63	1.19	1.35	1.67
Kurtosis	-.52	-.60	-.87	-.40	2.54	.23	1.37	-1.22	-.36	.09	1.30	.40	-.04
Skewness	-.65	-.72	-.26	-.74	-1.39	-.73	-1.01	-.07	-.35	-.63	-.77	-.77	-.89
Minimum	2	2	1	1	1	1	1	1	1	1	1	1	1
Maximum	7	7	7	7	7	7	7	7	7	7	7	7	7

Source: authors' own determinations

The factor analysis was performed and the factor loading value of each item was above 0.7 (with one exception, for S.I.1 being 0.57>0.5 accepted value considering the sample size, Table 2) showing an adequate convergent validity (MacCallum, Widaman, Zhang, & Hong, 1999). For the three constructs, faculty support, course design and student implication variables, were computed the mean, the standard deviation, the composite reliability (CR), the Cronbach's alpha and the average variance extracted (AVE) values presented in Table 2. The values of AVE for each construct were higher than 0.5 indicating adequate convergent validity.

The reliability of data was assessed too. The composite reliability (CR) and Cronbach's alpha values of the predictor variables were higher than 0.70 (Table 2), indicating acceptable internal consistency (Doll, Raghunathan, Lim, & Gupta, 1995).

Table 2. Constructs measurements

Construct	Item	Factor Loading	Mean	Standard Deviation	CR	Cronbach's alpha	AVE
Faculty Support	F.S.1	0.79	5.16	1.39	0.887	0.89	0.662
	F.S.2	0.76					
	F.S.3	0.73					
	F.S.4	0.75					
Course Design	C.D.1	0.74	5.22	1.25	0.806	0.83	0.587
	C.D.2	0.79					
	C.D.3	0.81					
Student Implication	S.I.1	0.57	4.44	1.43	0.836	0.75	0.634
	S.I.2	0.81					
	S.I.3	0.77					

Source: authors' own determinations

The Table 3 presents the discriminant validity of the constructs. It suggests the extent each variable is distinct from the others. The Fornell-Larcker criterion was used, thus the square root of AVE value for each variable compared with the correlations it has with the other variables is the highest value. This indicates a satisfactory discrimination validity.

Table 3. Latent variable correlations

Constructs	Faculty Support	Course Design	Student Implication
Faculty Support	**0.814**		
Course Design	0.648	**0.766**	
Student Implication	0.392	0.357	**0.796**

Source: authors' own determinations

The causal relation analysis

The research framework was also evaluated examining the coefficient of determination (R^2) showing the percentage in which the variation of the independent variable explains the variation of the dependent variable. The R^2 values are shown in Table 4.

Table 4. Hypothesis results

Dependent variable	Factors	Beta	p-value	R2	Hypothesis Status
Student perceived learning experience through e-learning platform	***H1a*** Faculty support	.462	.000	0.533	***Supported***
	H2a Student implication	.152	.083		***Unsupported***
	H3a Course design	.251	.018		***Supported***
Student perceived learning experience through online classes	***H1b*** Faculty support	.418	.000	0.538	***Supported***
	H2b Student implication	.192	.028		***Supported***
	H3b Course design	.276	.009		***Supported***
Student satisfaction	***H4a*** Student perceived learning experience through e-learning platform	.473	.000	0.493	***Supported***
	H4b Student perceived learning experience through online classes	.276	.024		***Supported***

Source: authors' own determinations

The results of the first multiple linear regression analysis reveals that 53.3% of the variance in student perceived learning experience through e-learning platform is determined by the three factors taken into consideration. Among these, the most influent is faculty support (Beta=0.462), followed by course design (Beta=0.251). The least influential factor of student perceived learning experience through e-learning platform is student implication (Beta=0.152). From a statistical significance perspective, only two of the three investigated factors are significant: faculty support and course design ($p < 0.05$). Student implication, on the other hand, does not have a statistically significant influence on student perceived learning experience through e-learning platform ($p > 0.05$).

As seen in Table 4, 53.8% of the variance in student perceived learning experience through online classes is induced by the factors examined. Again, the most influential factor, among the three, is faculty support (Beta=0.418), followed by course design (Beta=0.276). The least influential factor of student perceived learning experience through online classes is the student implication (Beta=0.192).

The variance of student satisfaction is determined in a proportion of 49.3% by the two factors considered. The student perceived learning experience through e-learning platform has a higher influence (Beta=0.473) than the student perceived learning experience through online classes (Beta=0.276) on the student satisfaction.

Discussions and conclusions

Currently, the use of internet in education increased significantly. Moreover, the education institutions continue to invest in and integrate ICTs in the course offerings (Bayyat, Abu Muaili, & Aldabbas, 2021). Many universities in the world use e-learning platforms to support the face-to-face teaching-learning activities as they are efficient and engaging, help in class management and avoiding potential errors (Benta, Bologa, & Dzitac, 2014). Thus, one main good result of the lockdown in the Covid-19 pandemic was the experience of e-learning platforms and online classes.

The last three challenging years forced into action educational institutions offering onsite programmes. ICTs were tested and implemented the most suitable for each academic field. The professors had to design

the course structure for the online teaching to enhance the students' learning outcomes. But the results won't be achieved without the students' implication. The results of the research showed that the faculty support and the course design influence student learning experience to a higher extent than student implication. Moreover, this learning experience sensed by students had a constructive impact on student satisfaction with teaching-learning during Covid-19 pandemic.

As the respondents experienced a short period of back to face-to-face classes from April to May 2022, they were asked to appreciate the level of satisfaction with the face-to-face teaching-learning period. Comparing the result with their satisfaction during the online teaching period, it was visible a slightly higher satisfaction in the case of face-to-face period, the mean value increasing from 5.05 to 5.40.

The students were also inquired about their favourite online learning platform and to explain their choice. It could be synthesized from their answers that almost all respondents (96%) preferred to use Microsoft Teams, because it was easy to use, had everything in one place and made it easier to communicate with the professors and colleagues.

Furthermore, the students were questioned what they would like to be done differently or more in the teaching-learning process. They mentioned the following preferences: to continue using the e-learning platform to have all the information in one place, course materials, assignments, and projects; to have access to online classes, as its time saving, and to promote them; to have more projects assigned instead of theoretical exams, also to be offered trainings for using specific ICTs for different tasks.

This article described the experience of online classes in academic field, a faculty case study, analysing the students' perception on the unexpected forced online studying. In this situation the faculty had to find the best solution in terms of e-learning platforms, to support the students in the adapting process and use of the technology, to adjust the courses to the online learning environment, and to be present online in active ways implicating the students, answering to their requests, and supporting them in the learning process. The result of these years' experience was satisfactory for the students and beneficial for the digital development of the faculty and its staff, as the e-learning platform implemented continues to be used in the face-to-face and distance learning.

The sample size of this study is a limitation to generate results. As the data were collected at the end of academic year 2021-2022, just after the restarting of face-to-face classes post-pandemic, a major part of the students participating in our study experienced onsite classes at the faculty just for one month therefore they couldn't compare online classes with onsite classes. Just the 3rd year students had a one semester experience with onsite classes at the faculty before the pandemic outbreak.

Since the Faculty of Business offers full-time (onsite) and distance learning programs, this study will be extended to include the distance learning students in order to analyse the impact of ICTs in terms of digitalization of the teaching-learning process. Furthermore, for a complete view, the study should expand to the staff and the professors' use and satisfaction with the implemented ICTs. In this direction being considered the influence of institutional factors and the role of tech tools and resources in the success of a digitalized education system.

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