TECHNIUM
SOCIAL SCIENCES JOURNAL

Vol. 15, 2021

A new decade for social changes

www.techniumscience.com

ISSN 2668-7798

Technium Social Sciences Journal
Vol. 15, 71-79, January, 2021
ISSN: 2668-7798
www.techniumscience.com

Student perception of online education supported in the Covid-19 period

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Abstract. The coronavirus pandemic has brought many changes, requiring the identification of new ways of working, interaction and lifestyle. This created a context conducive to questions about the social order, the need for investment and the areas where such investment is needed in the future. Strengths and weaknesses were visible, both in a global context and in a European context; new challenges have arisen that society as a whole has to face. Digital technologies are a key component in collective efforts to address the virus and support new ways of living and doing business in this exceptional time. The European Commission has taken various measures to address the various aspects of the pandemic, and digital technologies play a vital role in this. Ensuring infrastructure, connectivity and rules of use are an important goal to enable the European (but also global) population to remain active and safe. Through this paper, we aimed to measure students' perception of online courses, the technology used to conduct online courses and the quality of teaching by teachers. The study involved, between October 1-15, 2020, a number of 120 students of the Faculty of Law and Administrative Sciences ("Ovidius" University of Constanta)

Keywords. perception, students, education, online, covid, pandemic

Introduction

The coronavirus pandemic has brought many changes, requiring the identification of new ways of working, interaction and lifestyle. It has created a context for the questions concerning social order, the investments required and the areas where these investments are necessary in the future. Strengths and weaknesses were visible, both in a global context and in a European context; new challenges have arisen that society as a whole has to face.

Digital technologies are a key component in the collective efforts to tackle the virus and support new ways of living and of activities in this exceptional period.

The European Commission has taken various measures to provide solutions to various aspects of the pandemic, and within these, digital technologies play a vital role. Ensuring infrastructure, connectivity and rules of use are an important goal to enable the European (but also global) population to remain active and safe.

Education systems are no exception to the wave of changes and adaptations imposed by the new global context. Online platforms, collaboration in work, creativity and skills, cyber

security, trust and security in the online environment, are just some of the problems that required the identification of relevant answers and solutions.

More than 1.5 billion children and young people were affected by the closure of schools around the world (Unicef, 2020) in early 2020, requiring socialization and online learning, spending more hours on virtual platforms provided by the authorities. In this context it was necessary to update security policies to reflect the new reality of pupils and students who have to attend courses from home, promote and monitor positive behavior in the online environment, access to counseling services, insuring updates for software in use, etc.

In other words, we notice that there are 3 categories of learning support that cannot be missing in the online environment (Lee, Srinivasan, Trail, Lewis & Lopez, 2011): instructive-educational, technical and social. The study authors cited show that overall satisfaction regarding the progress of online courses is significantly related to the granting of the three categories mentioned support. Moreover, authors such as Rovai and Downey (2010) or Lee (2010) argue that issues such as quality management, institutional development of universities, online course design or didactic and pedagogical aspects are important factors that determine the success or failure of online programs.

We observe, therefore, how the teacher plays multiple roles in this approach, being an instructor, designer and facilitator, actively involved in the course activity, facilitating learning, providing students with opportunities to develop knowledge and skills, monitoring activities and providing support then when it's necessary (Martin, Wang și Sadaf, 2018). The teacher has the duty to maintain the discussions on the topic, to provide assistance to students on technical issues, to provide regular announcements about the activity, to respond to e-mails from students, to promptly evaluate their work. (Correia & Baran, 2010).

The issue of online teaching activities has been widely debated in the literature, long before the context created by the coronavirus pandemic, and existing studies have tried approaches to various aspects that play a key role in student satisfaction in these forms of teaching activity:

- Minority status has negative effects on satisfaction in online education, while the educational background plays a positive role in the perception of online interactions, but on the other hand it has a negative effect on satisfaction in online education. The age of the student also has an impact on the effectiveness of conducting online interactions (Ke & Kwak, 2013).
- The clarity of the design, the interaction with the instructors, the active discussions between the participants influence the students' satisfaction and the perception on the learning. (Swan, 2006).
- Not all students are interested in engaging in online learning activities, especially if the subject matter requires face-to-face learning (Mohd & Aziah, 2012), environment specific to areas such as engineering or medicine.
- Although there do not appear to be differences in perceptions and satisfaction between men and women about online technologies used in higher education, age or year of study appear to have effects on school satisfaction, along with time spent by students accessing online platforms and learning resources. made available by teachers on these platforms (Horvat, Dobrota, Krsmanovic & Cudanov, 2013).
- Social presence and perception of it is an important predictor of students' perception of the quality of online learning (Richardson & Swan, 2003).
- Comparative studies on blended-learning versus traditional learning show that students affirm that there are no differences in value and quality between the online presentation of courses and the face-to-face presentation. (Suda, Sterling, Guirguis & Mathur, 2014).

Technium Social Sciences Journal
Vol. 15, 71-79, January, 2021
ISSN: 2668-7798
www.techniumscience.com

- Ability to work on online platforms, time management and technical expertise prove to be more important to students than online communication skills (Martin, Ramper & Flowers, 2020). On the other hand, there are studies that support the huge importance of the confidence that some students have in their ability to communicate and learn online. (Palmer & Holt, 2009).
- Other studies, while supporting multiple benefits of online education, show that teachers need to pay attention and select information from traditional teaching that can be adapted and taught to students in online modules. (Smart & Cappel, 2006).

In the context of the pandemic, Ovidius University of Constanța initiated, in line with European and national requirements, the implementation of the online system in carrying out educational activities. Although the Romanian education system faces methodological and technical problems in ensuring optimal conditions for online activity, the university space benefits from a number of advantages in implementing this educational format, advantages regarding the age of beneficiaries, their level of independence or superiority of digital skills. which they possess, compared to the beneficiaries of pre-university education.

Our university has acquired access to online platforms, providing technical support for carrying out activities. Online consulting groups were organized, consisting of university teachers with skills in this area. These groups formed the basis of the technical support provided to students and other teachers in the university.

Audio-video tutorials with detailed explanations on software installation and use have been designed. Internal regulations were developed that regulated the activity of teachers and students. All these initiatives were submitted to the students' opinion in this study.

Objectives

As objectives, we pursued the following::

- Students' perception of online courses
- Students' perception of the technology used to conduct online courses
- Students' perception on the quality of the teaching act provided by teachers.

Study participants

The study involved a number of 120 students, of which 102 were female and only 18 were male (Table 1). This inequality in terms of the gender variable can be explained by the fact that the number of female students is higher than the number of male students and by the online administration of the questionnaire. From the point of view of the age variable, 104 participants are under 35 years old and 16 participants are over 35 years old.. (Table 2).

Table 1. Distribution according to gender

		Frequency	Percent
Valid	Female	102	85.0
	Male	18	15.0
	Total	120	100.0

Table 2. Distribution according to age

		Frequency	Percent
Valid	Under 35 years	104	86.7
	Over 35 years	16	13.3
	Total	120	100.0

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Table 3. Statistical indicators Age

N	Valid	120
	Missing	0
Mean		25.29
Median		22.00
Mode		21
Minimum		18
Maximum		51

The average age of the participants was 25.29 years, the minimum age was 18 years and the maximum age was 51 years, most participants were 21 years old.. (table 3).

For the study, we used our own questionnaire, built, consisting of 24 items, with answers on the Likert scale in 5 points, where 1 is total disagreement and 5 is total agreement. The questionnaire includes 3 dimensions: students' perception on the development of online courses (items 1,2,3,4,5,6,7), students' perception of the technology used to conduct online courses (items 8,9,10,11,12,13) and the students' perception on the quality of the didactic act provided by the teachers (items 14,15,16,17,18,19,20,21,22,23,24).

Data analysis and processing

Table 4. Total Score

N	Valid	120
	Missing	0
Mean		87.8667
Minimum		34.00
Maximum		120.00
Percentiles	25	68.2500
	50	92.0000
	75	108.7500

Performing an analysis of the total score obtained, we find that the average score is 87.86, falling into quartile 3, which means that students have a positive perception of how online courses were conducted. (Table 4).

Table 5. Dimension 1

N	Valid	120
	Missing	0
Mean		23.1500
Minimum		7.00
Maximum		35.00
Percentiles	25	16.2500
	50	23.5000
	75	31.0000

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Vol. 15, 71-79, January, 2021
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At dimension 1, Students 'perception of online courses, the average score is 23.15, which indicates an average level of students' perception of online courses during the pandemic. (Table 5)

In order to analyze the answers offered to the questions that make up the first dimension, we calculated the arithmetic means and the standard deviations of the respondents' answers and the results are presented in table 6**.** Because the scale used in the study is Likert type, there are 4 spaces for each degree, and the length of the period was determined by dividing the largest average by the number of distances (4/5) and we have a distance of 0.95.

Table 6. shows the calculation of weighted averages.

weighted averages	**level**
from 1 to 1,94	very low
from 1,95 to 2,89	low
from 2,90 to 3,84	medium
from 3,85 to 4,89	high
from 4,90 to 5.84	very high

According to the result in table 7, we recognize that the level of students' perception on the development of online courses during the pandemic was average and can be seen in items 1,2,5,6,7, the arithmetic mean can vary from 3.22 to 3.82. At items 3.4, we obtained an average that varies between 2.84 and 2.88 which indicates a low perception of the online teaching system.

The very high frequency of the respondents' answers for the total agreement variant can be found in items 1,2,5,6,7, as shown by the arithmetic mean in table 7. This highlights the fact that students said that they have a greater presence in online courses than in physical ones, online courses have more flexibility than physical ones, interact more and consider important the tasks received from teachers for the development of knowledge and professional skills and are satisfied with the quality of online teaching.

Table 7. shows the likely average score for each of the scale questions

item	**mean**	**level**
1.My attendance at online classes is higher than at regular classes	3.22	medium
2.The flexibility offered by online courses is better for me than the traditional one.	3.32	medium
3.I get more tasks during online classes compared to traditional classes.	2.84	low
4.After the end of the COVID-19 pandemic, I look forward to having a few more online courses.	2.88	low
5.The tasks I had to perform during online classes (activities, tests, etc.) were helpful in developing my professional knowledge and skills.	3.54	medium
6.Online courses during the COVID-19 pandemic were an excellent experience for me.	3.54	medium
7.Overall, I was pleased with the quality of the online teaching	3.82	medium
Score	**3.30**	**medium**

Technium Social Sciences Journal
Vol. 15, 71-79, January, 2021
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In dimension 2, “Students 'perception of the technology used to conduct online courses” to analyze the answers given to the questions that make up this dimension, we calculated the arithmetic means and standard deviations of the respondents' answers and the results are presented in table 8.

Table 8. shows the calculation of weighted averages.

weighted averages	**level**
from 1 to 1,96	very low
from 1,97 to 2,93	low
from 2,94 to 3,90	medium
from 3,91 to 4,87	high
from 4,88 to 5.84	very high

Because the scale used in the study is Likert type, there are 4 spaces for each degree, and the length of the period was determined by dividing the largest average by the number of distances (4/5) and we have a distance of 0.97.

According to the results in Table 9, we recognize that the level of students' perception of the quality of technology used to conduct online courses during the pandemic was average, the arithmetic mean can range from 3.48 to 3.90. This aspect highlights the fact that the students were satisfied with the computer and the internet they had at their disposal, with the familiar environment at home, which ensured them more comfort compared to the one at the university. The quality of teacher-student communication was efficient and even if sometimes small technical problems arose, they were successfully solved.

Table .9. shows the likely average score for each of the scale questions

item	**mean**	**level**
8.The computer is good enough to be used for online teaching	3.83	medium
9.The internet speed in my house is excellent	3.71	medium
10.The environment in my house is suitable for online teaching.	3.88	medium
11.I am satisfied with the technology I use for online teaching	3.90	medium
12.I am satisfied with the use of communication tools in online teaching.	3.78	medium
13.Technical problems do not discourage me from online courses.	3.48	medium
Score	**3.76**	**medium**

In dimension 3, the students 'perception on the quality of the didactic act provided by the teachers, in order to analyze the answers offered to the questions that compose this dimension, we calculated the arithmetic means and the standard deviations of the respondents' answers and the results are presented in table 10.

Table 10. shows the calculation of weighted averages.

weighted averages	**level**
from 1 to 2.05	very low
from 2.06 to 3.11	low
from 3.12 to 4.17	medium
from 4.18 to 5.23	high
from 5.24 to 6.29	very high

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Because the scale used in the study is Likert type, there are 4 spaces for each degree, and the length of the period was determined by dividing the largest average by the number of distances (4/5) and we have a distance of 1.05.

According to the results from table 11, we find that the level of students' perception on the quality and performance of the technology used is of average level, the arithmetic average varying from 3.33 to 4.23. This aspect highlights the fact that the students were satisfied with the quality of the didactic act, in the sense that the teachers were very active and were very involved in the teaching-learning process, they adapted the courses and used various supports, such as graphics, videos, photos, multimedia presentations, in order to carry out the courses in the best possible conditions, the tasks and homework given by the teachers were clear and easy to accomplish. The students also stated that the teachers were well trained professionally and want to give them good grades..

Table .11. shows the likely average score for each of the scale questions

item	**mean**	**level**
14.Teachers use different media for online teaching (graphics, videos, multimedia presentations, photos, etc.).	3.93	medium
15.Teachers adapt tasks, activities, topics to the specifics of the online environment	3.98	medium
16.The tasks given by the teacher were correct and clear in the online environment	3.96	medium
17.Teachers did their best to provide the information using online teaching	4.23	high
18.Teachers are fully involved in the teaching-learning process in the online environment	4.03	medium
19.Teachers have complete control over online students.	3.36	medium
20.Teachers are very active in communicating with me on the subject of online teaching.	3.87	medium
21.Teachers have used a wider range of resources in online teaching than in traditional teaching	3.33	medium
22.I intend to give my teachers a higher grade for the quality of online teaching than the hours taught during normal hours	3.41	medium
23.My teachers have the skills to provide online courses.	4.03	medium
24.In general, I was satisfied with the quality of the online courses and the performance of the teachers.	4.02	medium
Score	**3.83**	**medium**

Conclusions

The Covid-19 pandemic has led to many changes in society, all over the planet, most of the changes being felt in the medical field and in education. At the same time, online courses were a challenge not only for students, who had to reorganize their study program, but also for new assessment methods, especially for teachers, who had to rebuild all their courses overnight. in multimedia format (Powerpoint, video, audio, infographics, etc.), so as to gain the attention of course participants.

Following the study we conducted between October 1-15, 2020, among 120 students of the Faculty of Law and Administrative Sciences ("Ovidius" University of Constanța), we were able to draw the following conclusions:

- Most students believe that in the online environment, they receive fewer tasks than during traditional courses and that after the end of the pandemic they would not want to take courses in the virtual environment.
- Their presence in online courses is higher than during traditional courses, and the flexibility offered by online classes is greater in the perception of most respondents.
- At the same time, most respondents are overall, relatively satisfied with the quality of online teaching and the technical and pedagogical skills of teachers in this context..
- Regarding logistics, most students consider that both the internet and the home computer are good enough to support online courses.
- Most respondents believe that teachers have shown interest in providing information using the online learning platform and have the technical skills needed to take courses in the virtual environment.

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