

# The Impact of Online Education on the Romanian Higher Education System During the COVID-19 Pandemic. Case Study: Bucharest University of Economic Studies

Maria-Alexandra Sârbu<sup>1</sup>, Andra Modreanu<sup>2</sup>, Rodica Pamfilie<sup>3</sup> and Cosmin-Nicolae Mirea<sup>4</sup>

<sup>1) 2) 3) 4)</sup> *The Bucharest University of Economic Studies, Bucharest, Romania.*

E-mail: alexandramariasarbu@gmail.com; E-mail: andra.modreanu@yahoo.com

E-mail: rodica.pamfilie@com.ase.ro; E-mail: cosminnicolaemirea@gmail.com

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**Abstract**

The outbreak of the Covid-19 pandemic forced all the countries either to suspend the teaching and learning activities or to convert them into an online system. In March 2020, most educational institutions around the world eliminated face-to-face schooling and switched it to distance learning in order to reduce the spread of Covid-19. In some countries, parts of the formal education system (or the entire system) did not reopen in that academic year, while in others, the formal education system had been gradually reopened until the present time. The aim of this research is to analyze the impact of the online schooling in the higher education system, and its objective is to identify if the online education is as effective as the offline one.

The paper analyzes and synthesizes the main bibliographic sources in the field of education during pandemic times, the research being quantitative, from primary sources - analysis of statistical data provided by the questionnaire that was administrated to the Bucharest University of Economic Studies students'.

**Keywords**

Covid-19 pandemic, online education system, students' motivation, digital competences.

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**Introduction**

Education is an effort aimed at enabling individuals to become whole human beings so that they can better realize, understand, and support themselves (Nurrohimi, 2020). Providing quality education is an attempt to fulfill the national ideals in terms of forming the life of the nation. Therefore, education is the spearhead of efforts to improve the quality of a nation. The more qualified human resources one has, the more the quality of the country will be recognized in the eyes of the world. Achieving quality education will not be possible if the education process is not supported by students, teachers, professors and infrastructure conducive to learning. The educational issues that are currently shifting to students require a fundamental overhaul of the learning system and classroom learning patterns.

The Coronavirus pandemic accelerated the shift to distant learning to the point that it became the only existing way of education and communication (Viktoria and Aida, 2020). Due to the advancements in digital technology, teachers and professors have been obliged to use E-learning platforms (Benadla and Hadji, 2021). The pandemic forced schools, faculties, universities and institutions throughout the world to close their doors so that students might practice social isolation (Toquero, 2020). The sudden transition from face-to-face education to online learning that has been taking place since early 2020 has left various parties, both professors and students, unprepared. As a result, online learning, which was supposed to bring benefits by providing virtual classrooms, confused those involved in learning. Reducing the intensity of interaction between professors and students can promote the emergence of learning loss. Therefore, online learning delivery cannot be sustained for long. Originally, online learning was a necessity for students to

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be more independent as learning subjects, but in the current situation, it promotes a decline in interest and motivation to learn. Thus, it is clear that the introduction of online learning still needs to be combined with face-to-face learning to avoid learning loss.

This paper is structured as follows: chapter 1 includes a presentation and an analysis of the results stemming from the main specialty studies related to adapting and rendering the education process more flexible in the context of the COVID-19 pandemic; section 2 presents the objectives and methodology of this research; section 3 presents the main results of the analysis performed, subordinate to each present objective; section 4 synthesizes the main conclusions of the research and underlines the importance of the obtained results in formulating policies aimed at supporting the modernization of the education process, making it more effective and flexible in order for it to meet new challenges.

## 1. Review of the scientific literature

In the existing literature on online teaching and learning, there are a variety of concepts. These terms have different meanings, but are sometimes used interchangeably (*distance learning*, *online teaching*, *emergency online teaching*, *distance learning*). For example, Bozkurt and Sharma (2020) refer to distance education as a process characterized by "*temporal and/or spatial distance*" and distance education as a context of "*spatial distance*". The definition of distance education cannot be limited only by being far away from the teaching environment such as school, because most distance education students are close to their schools and have access to educational materials through electronic media. Uşun (2006) defined distance education as a planned and systematic application of educational technology. Moore and Kearsley (2011) used the term "*distance education*" instead of "*distance learning and teaching*" because education is a broader term that encompasses both learning and teaching, as opposed to only learning or teaching, as an individual term. According to Moore and Kearsley (2011), distance education means both a teaching and a learning process, that occurs in spatial and temporal separation and requires elements of interaction through the use of technology. Distance education can also be defined as the electronic transmission of information to a remote location via satellite, video, sound, computer, multimedia technology, and similar tools, or as an educational system in which the teacher and the student are in different locations (Tuncer and Tanaş, 2011). From all these definitions, the concept of distance education is a learning and teaching model that is independent of time and space and provides educational opportunities through technologies.

The Covid-19 pandemic affected education and, in particular, professor education in several ways. As a result of the closure of universities and schools, teachers and students have had to quickly adjust to teaching from a distance. Teacher education is no exception. The need to create learning environments for student teachers preparing to become teachers required choices, decisions, and adaptations to meet not only student expectations, but also the demands of teacher education and the conditions under which both universities and schools had to operate (Assunção Flores and Gago 2020). The fast, unexpected, and forced transition from face-to-face to distance education has presented a number of challenges and constraints, as well as opportunities, that need to be explored. Existing literature points to a „*distress of distance education*” (Bozkurt and Sharma 2020) or „*distress of eLearning*” (Murphy, 2020) and difficulties related to poor infrastructure for online teaching, inexperience of faculty, information gap (limited information and resources for all students), and complex home environment (Zhang et al. 2020). In addition, lack of supervision and support (Judd et al. 2020) and issues related to faculty competencies in using digital instructional formats (Huber and Helm 2020) were identified. Higher education institutions constantly face challenges of diversity management (Săseanu et al. 2020). Regarding teacher education, there are several ways that described the way in which institutions and actors have adapted to the new scenario created by the Covid-19 pandemic (Bao 2020), and reported on training strategies and experiences with innovation (Ferdig et al. 2020).

### 1.1. Online education during Covid-19 pandemic

The Covid-19 pandemic had significant repercussions not only in terms of health and the economy, but also in social terms, especially educational ones. This means that a double crisis appeared: *an educational crisis related to the closure of schools and universities* and a *general economic crisis* that also affects the education sector. In particular, the closure of educational institutions in connection with the pandemic leads to the suspension or slowdown of educational processes and to an increase in inequality in this area.

The pandemic and the closure of schools around the world have had a negative impact on the national education systems institutions in most of the countries, the situation required special measures that had to be taken immediately and a list of rules that had to be obeyed. According to experts, the Coronavirus

pandemic has exacerbated pre-existing problems in international education. World Bank experts have determined that the Covid-19 pandemic threatens educational progress around the world by two main factors: first, *the almost complete closure of schools at all levels*, and second, *the economic crisis caused by pandemic measures*: "It simply came to our notice then profound impact on education, closing schools almost everywhere on the planet - the biggest shock for all the education systems in our lives. The damage will become even more severe as the urgency of health will escalate into a deep global recession."

Because of the Covid health pandemic, professors and students were left with their feelings of uncertainty, and online courses were introduced on short notice as a result. In such a time of unpredictability surrounding online instruction, many questions naturally arise about its effectiveness and impact on teachers and students. Universities' closures and the introduction of distance education negatively impacted student learning through four main channels: *less time to learn*, *the onset of stress symptoms*, *the change in which students interact with each other*, and *a lack of motivation to learn*. Nevertheless, distance education is essential to ensure continuity of learning in situations where face-to-face instruction is suspended.

*a. Less time to learn* - Most of student's formal learning takes place in universities, meaning that by closing them and transferring the learning process into a remote environment can result in students spending less time learning. According to the School Barometer survey, which took place from 25<sup>th</sup> March to 5<sup>th</sup> April, 2020 and which targeted Austrian, Swiss, and German students between the ages of 10 and 19, had shown the fact that students' weekly learning time was between 4 to 8 hours shorter during the closure of Covid -19 than the period when schools were open (Huber et al. 2020). In addition, one in five students reported learning less than 9 hours per week;

*b. The onset of stress symptoms* - Students who were stuck at home with their parents due to Covid-19 pandemic tended to feel more anxious and stressed. Sprang and Silman (2013) shown that the students who have been isolated or quarantined during a pandemic were more likely to suffer from acute stress disorder, grief and adjustment disorder. These negative psychological factors can, in turn, adversely affect the learning process (Kuban and Steele 2011);

*c. The change in which students interact with each other* - It is well known that the school environment affects performance through peer influence. Being in a classroom and having the opportunity to interact with classmates can have important positive externalities. Peer effects can operate through many different channels: students can teach each other and improve together, high performance by classmates can motivate the student (through competition or social influence) to try harder. The student may also develop an interest in reading or mathematics thanks to classmates (Sacerdote 2011);

*d. A lack of motivation to learn* - The learning motivation can be measured in several aspects, namely curiosity, efficacy, attitude, need, competence, and external motivators. The concept of online learning is good enough to meet the needs of the 21<sup>st</sup> century and also to deal with and prevent pandemics. However, almost more than a year of online learning has not completely increased the learning activity of students. According to Setyorini (2020), online learning brings problems for students, teachers, professors and parents because the mastery of technology is still low, additional tasks for parents in guiding learning, additional educational costs for quotas, low intensity of communication between professors and students, irregular working hours and coordination between both of them. The combination of face-to-face (offline) and online learning is necessary to mitigate the effects of learning loss. Quality learning outcomes are also determined by the effectiveness of learning time, an aspect that is a major challenge in implementing online learning. Students usually have difficulty determining effective learning time at home because the family environment does not support students' focus on learning. The better the coordination, the more comfortable the students feel, so an increase in the dropout rate can also be prevented.

### 3. Research methodology

The main purpose of the research has been to determine the perception of the Bucharest University of Economic Studies (ASE) community of students on the quality of the online teaching process, after almost two years of pandemic. The data required to reach this purpose has been obtained through selective research (survey) on the ASE students, from all faculties (11 faculties), cycles of education (bachelor's degree, master's degree) and years of study (five years of study). The research took place during the September-October 2021 period when the survey questionnaire was distributed and filled out online by a sample of 1952 respondents.

The detailed objectives of the research were the following:

- Obtaining feedback on the quality and efficiency of online education;

- Identifying the need for digital training for students as well as for teachers;
- Identifying administrative problems encountered throughout the entire period of online teaching activities.

Taking into account these objectives, the survey questionnaire was comprised of a set of 19 questions and was structured into three parts, as follows:

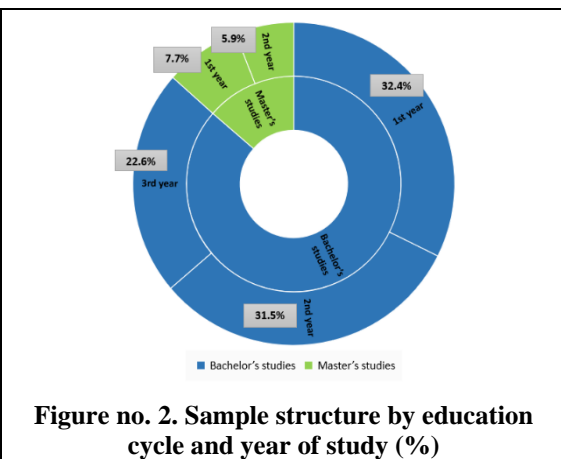
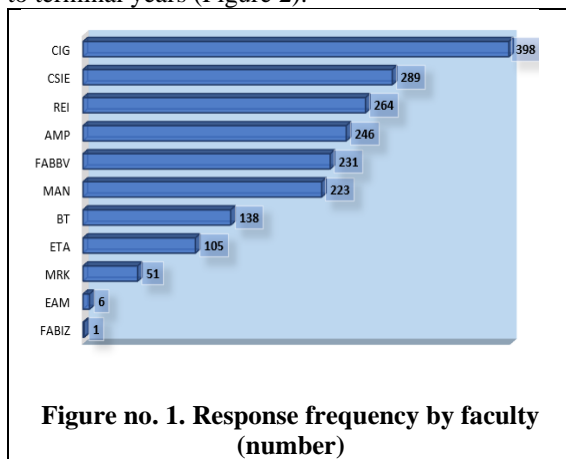
- a six questions section dedicated to the general assessment of the digital education process and to the students' degree of accessibility to the digital education activities (electronic devices, Internet connection, etc.);
- a six questions section aimed at assessing the digital skills of the participants to the online teaching process and the need for additional training in this field;
- a seven questions section regarding the quality of electronic platforms placed at the disposal of actors involved in the online teaching process by the university, as well as identifying the setbacks encountered in accessing and using these electronic resources, or in communicating with the teachers and administrative structures within the university/faculties.

Furthermore, with respect to the identification variables, the respondents were asked to specify the faculty they attend, the education cycle and the year of study. Regarding the processing of responses, this study has applied a varied system of scaling methods, after which descriptive statistical methods specific to univariate data were applied.

## 4. Results and discussions

### 4.1. Sample structure according to segmentation variables

From the total number of respondents in the sample, the majority - almost 400 - were students of the Faculty of Accounting and Management Information Systems (representing approximately one fifth), then students of the Faculty of Economic Cybernetics, Statistics and Informatics (CSIE) (289 responses, respectively 14.8%) and students of the Faculty of International Business and Economics (REI) (264 responses, representing 13.5%) - Figure 1. Students attending university programmes within the bachelor's degree cycle participated in the survey to a greater extent (86.4%) than masters' degree students (13.6%), which is over 6 times more. Within each education cycle, the response frequency was higher in the case of students from beginning years of study, outlining a decreasing trend of these frequencies as the students were closer to terminal years (Figure 2).

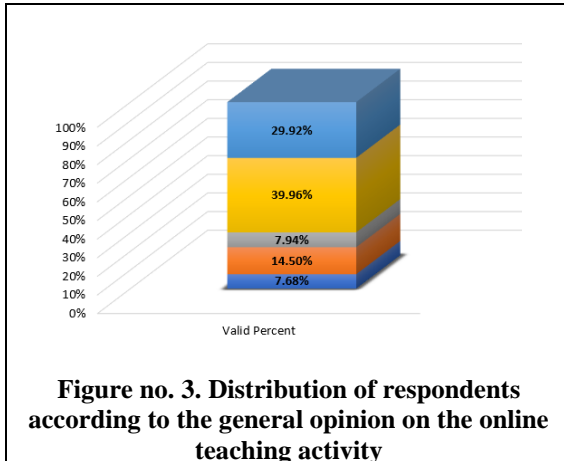


### 4.2. Characterisation of the online teaching process accessibility and quality

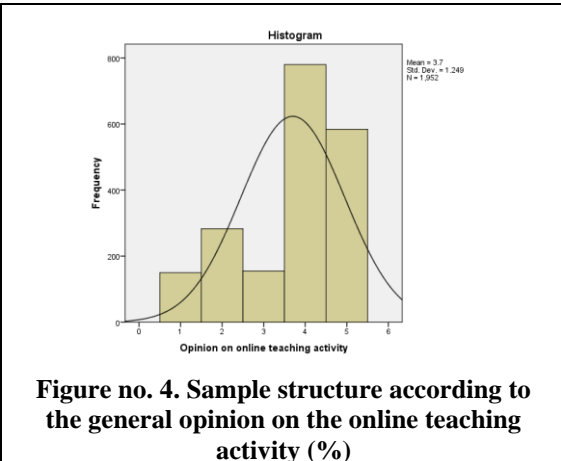
Approximately 70% of respondents in the sample appreciated the educational activity performed online within ASE Bucharest as "Good" or "Very good" (40% - Good, 30% - Very good). Only 7.7% of the students included in the sample had an unfavourable opinion of this activity. In any case, it is evident that the distribution of respondents by their feedback regarding the quality of the digital education process during the COVID-19 pandemic presents negative skewness, with a significant predominance of positive opinions related to this process. (Table 1, Figures 3 and 4).

**Table no. 1. Overall opinion on online teaching activity**

Overall opinion	Frequency	Valid Percent	Cumulative Percent	Descriptive Statistics	
Not good at all	150	7.7	7.7	Median	4
Less good	283	14.5	22.2	Mode	4
Indifferent	155	7.9	30.1	Percentiles	
Good	780	40	70.1	25	3
Very good	584	29.9	100	50	4
Total	1952	100		75	5

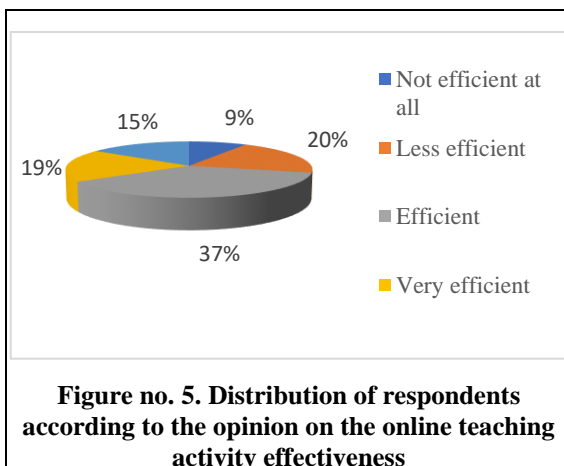


**Figure no. 3. Distribution of respondents according to the general opinion on the online teaching activity**

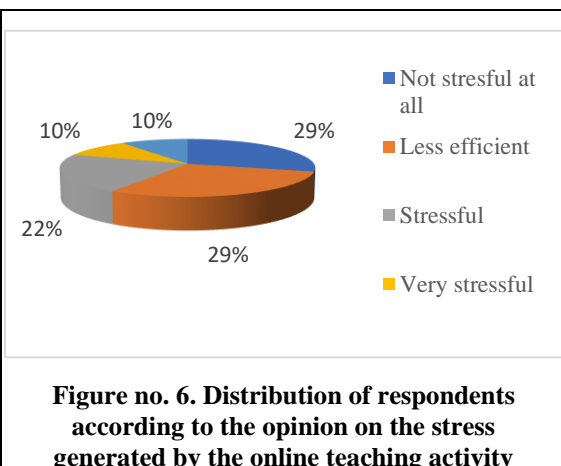


**Figure no. 4. Sample structure according to the general opinion on the online teaching activity (%)**

Regarding the availability of technical means for students to access online education, the results show that there were no major impediments in this regard. Thus, 87.8% of the students participating in the research state that they have access to a device for participating in online teaching activities, while less than 2% of them say they don't have one, or that they have to share it with someone else. Most respondent students use their laptop to participate in online teaching Activities (81.4%), only 9.5% use a mobile phone for this activity. 88.2% of students have adequate internet access, 10.8% have limited internet access, while only 1.1% of them have no internet access at all.



**Figure no. 5. Distribution of respondents according to the opinion on the online teaching activity effectiveness**

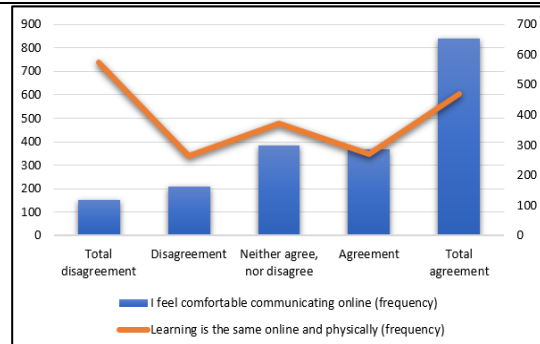


**Figure no. 6. Distribution of respondents according to the opinion on the stress generated by the online teaching activity**

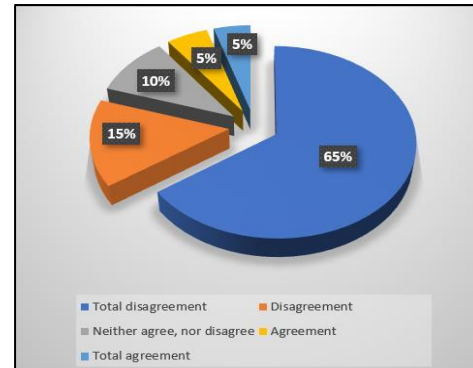
The assessment of the online education effectiveness indicates that most students consider that from their perspective this process has proven to be effective (724 responses, which is over 37% of the total number of responses), for 395 students online education was less effective (20.2%) and for 366 - very effective (18.8%). In other words, there is an approximately symmetrical distribution of respondents according to this variable (Figure 5). From the perspective of stress, the online teaching process does not generate a particular degree of stress for respondent students, almost 60% of them declaring that online education is "less stressful" or "not stressful at all". 21.6% have found this process "stressful" and the rest - "extremely stressful" or "very stressful" (Figure 6).

### 4.3. Characterising the digital skills of the participants to the online teaching activity

The purpose of the questions in this section of the questionnaire is for the students to assess the level of their digital skills, which are necessary for the participation in the online education process in good conditions and with good results. As a result, slightly over 71% of respondents completely agree with the statement “I possess the digital skills required to participate in the online teaching activity”, while 17.6% agree with this statement. Only 2% of the surveyed students disagree or completely disagree with the aforementioned statement, which shows that most students fully trust their digital know-how.

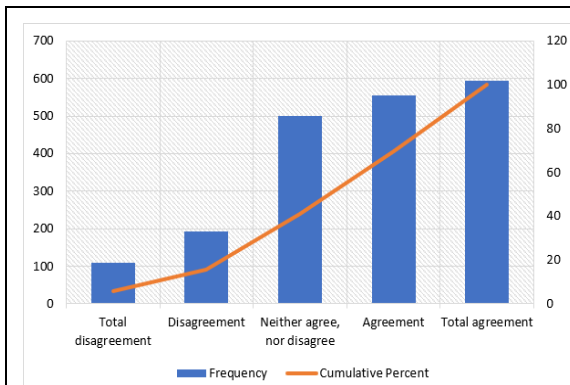


**Figure no. 7. Respondent distribution according to the agreement/disagreement with the following statements: “I felt comfortable communicating online” and “Learning is the same online and physically” (number)**

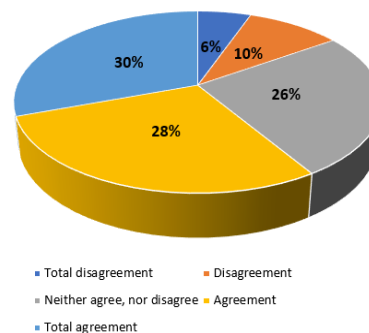


**Figure no. 8. Sample structure according to the agreement/disagreement with the following statement “I need training for digital skills” (%)**

Almost three quarters of students who participated in the survey feel comfortable communicating online (Total agreement), just 7.8% of them having encountered difficulties in this regard (total disagreement). Comparing the online education process with the classical one (face-to-face learning), opinions are approximately symmetrically distributed: between 24 - 30% of respondents either totally agree, or totally disagree with the fact that there is a similarity between the two types of learning, and approximately 13% either agree or disagree with this fact (Figure 7). Additionally, over half the respondents consider they have absolutely no need of training to enhance their know-how in the digital field (65%), while only 5% of the students totally agree with this fact (Figure 8).



**Figure no. 9. Distribution of respondents according to the agreement/disagreement with the following statement: “Teachers have the necessary training for online Activities” (number)**



**Figure no. 10. Sample structure according to the agreement/disagreement with the following statement: “Teachers have the necessary training for online activities” (number)**

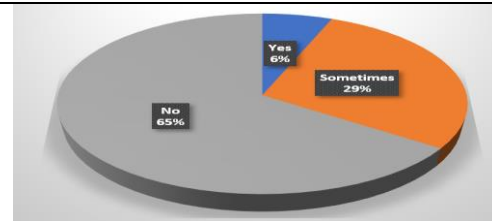
When it comes to the other participants in the online education process - teachers, the opinions of respondent students regarding the necessity to optimise the professors’ digital skills through training are more evenly distributed. As a result, over half the students included in the survey consider that the teachers’ digital skills do not require improvement through further training (30% - Total agreement, 28% - Agreement), other 20% neither agree, nor disagree with this statement. Only 15.5% of students consider that the teachers’ level of digital know-how is insufficient, therefore requiring improvement (Figures 9 and 10).

#### 4.4. Identification of difficulties in accessing and using the electronic platforms used in the online education activities

Performing online education activities is not a process devoid of difficulties. In the opinion of the students who participated in the survey, the difficulties in accessing the digital platforms placed by ASE at the disposal of students and teachers were encountered with relatively reduced frequency. 73% of respondents encountered no such difficulties in accessing the [www.webstudent.ase.ro](http://www.webstudent.ase.ro) platform, while almost a quarter of them sometimes encountered such difficulties. The percentage of students who encountered no impediments in accessing the [www.online.ase.ro](http://www.online.ase.ro) platform was slightly inferior (62.4%) compared to the first platform, however reaching a high level; almost one third sometimes encountered difficulties in accessing it (Table 2).

Opinion		Difficulties in accessing	
		the webstudent platform (%)	the online.ase platform (%)
Valid	Yes	2.8	4.6
	Sometimes	24.2	32.9
	No	73	62.4
	Total	100	100

**Table no. 2. Difficulties in accessing digital ASE platforms (%)**



**Figure no. 11. Communication problems with teachers (%)**

65% of the respondent students had no difficulties in communicating online with the teachers, while 29% of respondents sometimes encountered such problems (figure 11). Students did not highlight any special problems in communicating with the administrative structures within the university/faculty in the period of online teaching activities, most of them admitting to having had no difficulties in this respect.

#### Conclusions

To sum up, based on the existing literature review and the most recent available data sets, four main conclusions emerge about the potential impact of Covid -19 on education. Firstly, student learning is expected to rebound on average. Despite the widespread shift to online instruction, student progress will not simply be the same as if schools were open for the past years. Secondly, the effect of Covid -19 on student achievement is likely to vary by socioeconomic status: students from less advantaged backgrounds are likely to experience a greater decline in learning than their better-off peers. Thirdly, during this time of need, inequality in socioemotional skills may also increase. Students from lower socioeconomic status were more likely to be exposed to stressful home environments than their peers from higher socioeconomic status. In addition, parents from more affluent backgrounds may have been better equipped in terms of socioemotional skills to deal with problems. Last but not least, the widening social gap in cognitive and socio-emotional skills created by Covid-19 may not only have short-term effects, but also long-term effects. This increased inequality may persist or even increase over time, affecting subsequent educational outcomes and future labor market performance. The field of education was one of the sorely tried fields in the context of the COVID-19 pandemic, which has had to reinvent itself to a certain extent, to adapt in order to ensure the continuity of the activity. The entire process of shifting the teaching activity online has, certainly encountered a series of difficulties, among which the need to stimulate the students' motivation, issues related to the infrastructure, necessary digital skills, limiting interpersonal interaction, ensuring the quality of the education process, and the Romanian university education was not fully prepared for this transition (Gutte, 2021; Coman et al. 2020). Following the survey of the students enrolled in the Bucharest University of Economic Studies, they had a high level of satisfaction related to the online teaching activity, with almost 70% of students surveyed having a good and very good opinion regarding this activity. Students feel comfortable with the activities performed online, the majority having the technical means as well as the digital skills required, and over 50% of them consider that the teachers have the necessary level of digital skills required to perform the teaching activities online. Concerning the comparison between the two education systems (physical presence and online), the respondents' opinions are split, the percentage of those who agree that the two processes are similar being approximately equal to the percentage of those who consider that the two systems are significantly different. However, the universities have strived to keep up with the challenges of online education, creating new electronic resources or perfecting the existing ones, in order to support and facilitate the learning process. As a result, less than 5% of the ASE students surveyed declared that they had difficulties repeatedly or continuously in accessing the digital platforms placed at their disposal by the university. The results obtained by this research have led to a series of proposals for the successful adjustment of the classical education to a hybrid model.

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