

CURRENT STATE IN EDUCATIONAL SYSTEM DURING COVID-19 PANDEMIC SITUATION – CASE STUDY: SLOVAKIA

STAREA ACTUALĂ A SISTEMULUI EDUCAȚIONAL ÎN TIMPUL PANDEMIEI DE COVID-19 – STUDIU DE CAZ: SLOVACIA

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Abstract: The current pandemic situation has shown many shortcomings in areas that are on the margins of society. The development of education, not only in Slovakia, has a great potential to achieve an increase in knowledge. The present paper summarizes the results of a survey on the situation at the time of the pandemic, when the schools were closed. The survey lasted 21 days, during which it reached the attendance of 1 416 people. Seven of the questions in the survey aimed at finding out the form in which distance learning was carried out at that time, while three questions focused on the preparation of both teachers and students for teaching activities. The questionnaire included a total of 17 questions. The results showed in how many schools distance education was implemented, how teachers and students evaluate the distance and full-time education system. The most valuable part of the survey is the subjective opinions of respondents on the mentioned issues. The overall success rate of the questionnaire was 36,9%, which represents 522 participants.

Key-words: *educational system, online teaching, distance learning, questionnaire survey.*
Cuvinte cheie: *sistem educațional, predare online, învățământ la distanță, chestionar.*

1. INTRODUCTION

The term education has many definitions in the field literature. The common feature of different authors for the term education is process (Cirbes, 1980; Pavlík, 1949; Petlák, 2016). Education is the result of the educational process. Here again we may encounter ambiguity in definitions, but even in this case, the authors have a common feature - the result. Pavlík (1949) offers the following definition of the term: “*Education is the process of acquiring knowledge and activities, the formation of knowledge and skills, the formation of a scientific worldview and the development of physical and mental abilities. Education is then the result of the educational process and we mean the system of basic scientific and technical knowledge and related intellectual and practical skills in the comprehensive*

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development of skills and the acquisition of special interests of individuals.” The educational process is continuous and never-ending, as it does not take place only in an institutionalized environment. One learns his whole life.

The educational forms are components of the educational process. These are resources related to the organization of the teaching process in relation to time, the student team, or the needs of school activities. In other words, the forms of teaching are organizational means to achieve the effectiveness of the teaching process. The course of teaching is a component of the organizational form of teaching. The organizational form of teaching can therefore be understood as a complete time unit, which, however, does not apply only to one lesson, but also includes excursions or trips (Petlák, 2016). The base organizational unit is a teaching lesson, which takes 45 minutes. These 45 minutes are divided into several structures, which could sometimes seem ineffective (Turek, 2008).

In-person education is characterized as the most common and the most used form. There is a direct interaction between the lector and the student (Law no. 131/2002). The phrase direct interaction is the most important element in the mentioned full-time teaching. In this form of teaching, the teacher and the student meet physically daily at school, in the classroom, or at the place where the teaching takes place.

The year 2020 started with a worldwide pandemic situation of Covid-19 that affected all spheres of our lives, including education. Every aspect of our previous life had to move online. The term distance education had to move online. The difference between in-person education and distance education consists in the interaction between lector and the student. While regular teaching takes place face to face, distance teaching is realized “on distance” (lector and student are not in direct physical contact (Rohlíková & Vejvodová, 2012). According to Law no. 131/2002 on universities, distance education is defined as follows: *“The distance method replaces the direct contact of the teacher with the student by communication through means of communication, especially means based on the use of computer networks.”* However, Bates (2005) differs 5 generations of distance education. According to Bates, distance education uses corresponding education (post, print materials), multimedia (audio records, video records, phone), mass media (radio, television, satellite), offline computer-assisted education (PC educational programs, CD-ROM), online education (digital technologies, network communication). Although most of the distance learning takes place in the form of online education, it is not the only and unconditional form of teaching. The essence of this form of teaching is the distance between the teacher and the student, or no personal interaction between them. Although it is based on distance, in no case students should be deprived of the knowledge they would otherwise acquire during full-time teaching.

During distance teaching, which in these times takes place mainly online through various communication tools, it is possible to change the commonly used structure of the organizational form to achieve the greatest possible efficiency in the use of time. Since the conditions for teaching have changed for some time, it

is not necessary to adhere to this structure enrollment in the class book, individual examination of students, interpretation of new curriculum, summary of curriculum, assignment of homework to students (Turek, 2008). Enrollment in the class book may be made later (e.g., after school, when the teacher may enroll in all class books online at the same time). The students' absence from class can be reported by email. A teacher can test a student while assigning a task to other students. These suggestions also have some shortcomings, but considering the particular circumstances, it is also possible to look at some old principles from a different perspective.

The sudden transition to distance learning literally from day to day was a big surprise not only for the teachers, but also for the students and their parents. Most schools were not prepared for this form of teaching, and teachers had to prepare again all teaching materials (Schmidt, 2019). During the transition to distance learning, several problems arose in society. The unpreparedness of teachers had and still has the effect that parents had to take on the role of instructor in their own hands. From the beginning, the teachers either did not respect the set timetable or did not teach their lessons at all or sent assignments to the students for elaboration over the weekend. The findings of the study on online versus in-person teacher education (in terms of long-term teacher training) argue that a well-designed online teacher training program can be as effective, or even more effective, than a university (in-person) educational program. The authors of the survey rely mainly on the results of previous studies, where the benefits of online teaching are highlighted, especially greater flexibility and availability of study materials (Chiero & Beare, 2010).

Although the results of online or distance education in the time before the corona crisis show positive or even better outcomes of distance education, the sudden transition from full-time to distance form differs significantly from the planned online teaching. The findings of a survey of language teachers show that the sudden transition to distance learning poses major challenges for their students. Educators worked to tailor teaching, developing new ways and approaches to support distance learning, but feared outcomes for students. The findings show that teachers had enough time to prepare the material for teaching at a time when online teaching was planned. However, since there was a change from day to day, teachers could not adapt so quickly to this sudden change (Moser et al., 2021). Among the advantages of distance education, Gazdíková (2003) includes temporal and spatial asynchrony. Student devotes as much time to the study as he / she deems appropriate and is not limited by the space where the teaching takes place. Thus, most studies can be individualized, adapted to their needs, possibilities, and abilities. Due to a different type of motivation to learn, as well as the responsibility of the students themselves, the mentioned form of education is especially suitable for adults' education in addition to employment. Another described advantage is a sufficiently wide range of teaching materials and aids needed for study. Objective benefits may include reduced or no costs for travel and accommodation for students and teachers, as well as for the operation of the educational institution.

Distance education is an interesting diversification. Among other advantages, the author states the following: *"greater involvement of the student in the educational process, the possibility of self-reflection through quizzes, less stress in taking tests, easier accessibility for handicapped students, decentralization of education."*

Based on the above-mentioned literature, distance teaching seems to be very advantageous and effective compared to classical full-time teaching. However, as stated by the authors of the study that aimed at evaluating the experience of the educational environment in Slovakia, distance education also has its pitfalls. Tens of thousands of children were excluded from the teaching process due to insufficient provision of technical support needed for education (without internet connection) (Hašková et al., 2020).

A major disadvantage of distance education can be considered that if sufficient technical support is not provided, whether by the teacher or the student, it is very difficult to implement it, especially when we refer to real time video conferencing platforms. Such dysfunctions do not occur in case of regular teaching. While full-time teaching is open to students who do not have the necessary technical equipment, this is one of the main problems in distance learning.

One of the above-mentioned advantages of distance education is also better motivation of students to learn, as well as time and space flexibility. Based on the performed survey, which is part of the empirical part of the presented final work, we do not agree with this statement. It is possible to find more and more studies and professional articles on the topic of burnout, frustration and depression caused by distance education. As the author claimed when describing the benefits, distance education is a kind of diversification for students. Distance learning had been implemented for almost a year when the study was achieved and, therefore, it is no longer considered as just a diversification. The motivation of both students and teachers decreased significantly. Time and space flexibility also cannot be considered an advantage in the current situation, because if online teaching takes place according to a pre-declared schedule, students should follow it. The advantages of full-time teaching could include the socialization of students and teachers, personal interaction between teachers, better and faster communication, and easier explanation of the curriculum.

2. DATA AND METHODS

A survey of the evaluation of the experience with courses in the form of full-time and distance learning of both teachers and students, which took place at the College of Architecture and Design - Jordan University of Science and Technology, shows the following results: the courses offered were divided into two theoretical and two practical courses during distance learning period. The electronic platforms used for distance learning were divided into two main categories, namely video conferencing applications (Zoom, Microsoft Teams) and communication applications (E-Learning and Facebook). Most respondents used video conferencing applications to conduct synchronous meetings; social networks were used for immediate contact with students and respondents used the E-learning system to publish study materials.

The results show that asynchronous teaching (E-learning and Facebook) was rarely used among students and teachers. Regarding the difficulties they encountered during online teaching, 65% of respondents reported technical connection problems. Approximately 70% of respondents declared privacy problems at home, and 25% have even faced psychological problems due to loss of privacy and the abolition of the boundaries between work and home. In terms of the division of courses into practical and theoretical, more than half of the respondents (56.30%) agreed and strongly agreed that distance online teaching of theoretical courses was as effective and reliable as the full-time form of teaching. Regarding practical courses, 41.20% of respondents disagree with the statement that distance online teaching is as effective as full-time teaching of the mentioned practical courses. Theoretical courses were recommended for online distance learning, and on the contrary, none of the respondents recommended the teaching of practical courses in the online environment (Ibrahim et al., 2020).

The questionnaire consisted of several steps. The first step was the preparation of the survey content, which refers to choosing the best questions able to reflect the respondents' characteristics. The second step was to create the online survey. The third step was the distribution of the survey to the respondents. The questionnaire was sent to the respondents to their institutional e-mail addresses and was also published on social networks. The e-mail addresses were obtained from the websites. The target group of the survey was represented by high school students and teachers from Slovakia.

The questionnaire included a total of 17 questions focused on respondents – their status of students (high school or university students) and type of school (vocational school, gymnasium, etc.), the form of teaching and finding out opinions on teaching (distance or full-time form). The questionnaire was published through social networks, and therefore other students than the target group could participate in it. The survey lasted 21 days, during which it reached the attendance of 1 416 people, but the total participation rate was 36.9%. Although the questionnaire had a total of 17 questions, more than 60% of respondents declared it took two to five minutes to complete. There were used two types of questions: open – students could directly write their answers and close – students could choose (one or more options). We expected open questions to be skipped, but the students expressed their ideas through long sentences.

3. RESULTS AND DISCUSSIONS

3.1 Statistics of respondents

Due to the distribution of the questionnaire on the social network, there were listed 7 statuses among the options for answering the definition of the respondent. We assumed that university students and parents would also take part in the survey, because the questionnaire was shared on the social network Facebook and thus was publicly available to a different group of people. However, from the selected target group, high school students had a larger representation, i.e., 44.4% of all respondents. Despite the direct approach of high vocational schoolteachers through

their e-mail addresses, their responses represented only 8.6% of the total number of received answers (1 416).

3.2 Questions focused on the form of teaching

There were 7 questions in the questionnaire that aimed at finding out in what form distance learning took place (the survey was carried out between February 11, 2021, and March 3, 2021). Since not all schools, as well as not all households in Slovakia have sufficient support of internet connection and technical support for the implementation of online teaching, we did not expect a 100% answer to the possibility of online teaching. Fig. 1 shows the expressed answers to the question of the existence of distance learning at school.

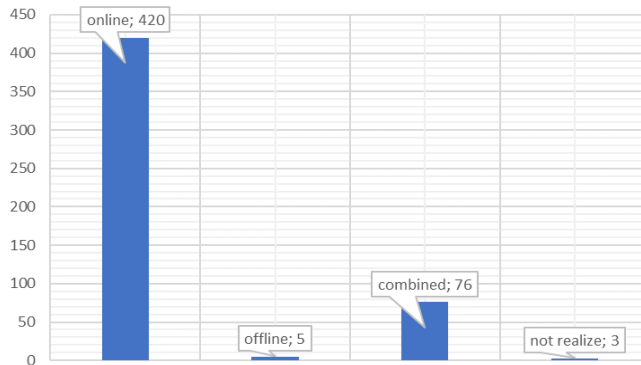


Fig. 1 Summary of answers to the question: “In which form does your school realize distance learning?”

More than 80% (420 responses) of schools provide distance learning online. Unfortunately, in 3 cases, respondents stated that their school did not provide any distance education. There can be several reasons, such as the already mentioned insufficient technical security of the equipment. We can currently consider the online form of distance learning to be one of the fastest and most widely used ways of implementing the pedagogical process. The combined teaching method can be understood as a combination of online and offline forms. Respondents could also indicate whether teaching at their school is carried out in a different (not mentioned) form. In this case, however, everyone stated that the forms were mentioned.

The following question, which dealt with the way of teaching, is very closely related to the form of teaching. As the combined method of teaching was mentioned above, the answer to this question offered the possibility of specification. Respondents had 8 answers available, with the option to mark more. When creating questions, we were specifically interested in how exactly the teaching takes place. Respondents had several options: a combined method (online and offline), several forms of online learning (by email, through video conferencing, educational portals, social networks), telephone conversation or other forms. The global pandemic situation has persisted for over a year and we were personally affected in the last semester of the second degree of university

studies. At that time, the distance form of teaching was very slow and the transition from full-time to online education took a very long time. However, this final work is addressed a year after the outbreak of the pandemic, so we assumed some progress in online teaching.

According to the answers to the question about the teaching methods, online teaching in real time through video conferences holds the first position (408), closely followed by online teaching through educational portals (Moodle, EduPage and others) (299), while online teaching by email is on the third position (147) (Fig. 2). The least preferred form of teaching turned out to be a telephone interview, as only 3 of respondents indicated it as a possibility of answering.

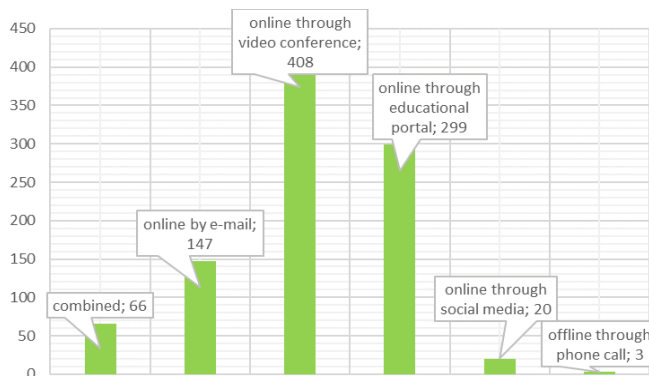


Fig. 2 Answers to the question about method of teaching

However, the respondents could also subjectively comment on the course of teaching in the open optional question no. 6. From the available answers, it is possible to evaluate that, in most cases, the teaching took place online through programs designed for real-time video conferencing (MS Teams, Google Meet). In one case, even assignments to students with unavailable information and communication technologies are delivered in a printed form. However, the questionnaire did not answer how this material reached the students.

Question No. 6 closes the part focused on finding out the form of teaching in schools. The following part of the questionnaire survey was focused on finding opinions on distance and full-time teaching, as well as a comparison of these two forms of teaching.

3.3 Questions aimed at seeking options and comparing forms of teaching

The aim of the following questions was to find out different information regarding the respondents' attention. The questions had very similar wording. Their focus was different. The first question was focused on the comparison of the effectiveness of distance education versus full-time education; the following was formulated in the opposite way - a comparison of the effectiveness of full-time teaching compared to distance learning. Both questions were answered by marking the degree of effectiveness by coloring / marking the number of stars – one star indicated very effective teaching, while five stars indicated very inefficient teaching.

When comparing the effectiveness of distance versus full-time teaching, the answers showed that distance learning seems to respondents as effective as full-time teaching (170 answers). On the contrary, when comparing the effectiveness of full-time and distance teaching, full-time teaching proved to be the most effective. Participants marked their answers with several stars. In case of this question as well, they had the option of marking one or more stars.

In compiling these two questions, we expected the respondents to mark distance learning as less or very ineffective compared to full-time education. A comparison of the answers to the two questions is shown in Fig. 3.

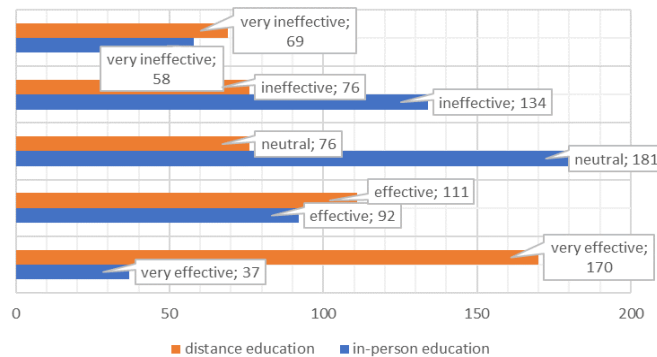


Fig. 3 Comparison of the effectiveness of chosen methods of teaching

170 respondents stated that full-time teaching is very effective compared to distance education. Such a result was expected, given the current events in education and the possibility of sharing opinions, especially on social networks. The result of marking the inefficiency of distance teaching in comparison with full-time teaching (second column on the right) was also expected. However, the results obtained by this survey are the subjective views of students and teachers, and it is not appropriate to generalize them, as only a small sample of all teachers and students involved in distance learning took part in the survey. The level of effectiveness of online learning were assessed in a study (Demuyakor, 2020). Students in the survey declared great satisfaction with the implementation of online learning. However, in another study (Hebebcı et al., 2020), students pointed out a negative experience with the effectiveness of teaching because of the lack of time in case of online classes.

In the survey, the disadvantages of distance teaching were approached in an unconventional manner. To find out this kind of opinion, we set aside 3 questions - question no. 9, no. 10, and no. 11. In question no. 9 respondents had a choice of several options, question no. 10 was optionally open and question no. 11 offered a matrix of choice of options. Questions no. 9 and no. 10 directly pointed out the disadvantages, while in case of question no. 11, respondents had a choice of several

statements. These statements could also be perceived as advantages, but also as disadvantages, especially of distance education.

Respondents had only a limited number of possible answers to this question, as the following question was open. Among the biggest disadvantages of distance education, respondents considered technical problems as the failure of the Internet connection. Another problem was the lack of socialization – in the survey, there was the possibility of answering "insufficient / no contact with classmates". This question was formulated with a limited number of answers because we wanted to leave room for respondents to subjectively express their perception of the disadvantages of distance learning.

When compiling the questions, we assumed that only a minimal number of respondents would comment on an open-ended question. However, after data collection, it turned out that 100% of respondents answered this question. We would summarize the answers into several categories: high school teachers considered the lack of attention of students and the lack of motivation in distance learning to be one of the main disadvantages. To illustrate, we present some of the answers: *"The student is unable to concentrate on teaching."* *"Lower concentration - family, ambient sounds, mobile ... reluctance to learn, lack of motivation",* *"they have a higher tendency to help each other with tests by various means."* Another disadvantage mentioned by both teachers and students was the lack of practice, practical exercises, and explanations of technical drawings online, for example, working with geodetic instruments. *"There is no access to practical teaching aids - (PLC, measuring instruments ...)."* *"We have no experience in professional subjects."* Students complained about a large amount of curriculum and insufficient interest from teachers. Teachers complained about the lack of motivation of students and their lack of interest in teaching. The students compared how much less information they got during online education. The survey showed that if students were not interested in a subject, they simply ignored the teacher and engaged in other activities at home, such as: *"At school, even if I don't enjoy the lesson, I must be there and listen to it anyway. Then I know, but, at home, I can turn on the TV and go eat, play, just a lot of distraction, and I'm not a Zen master to ignore."* This open question no. 10 we consider one of the most beneficial in the given survey, because the respondents had the opportunity to express a subjective opinion on selected forms of teaching.

In the survey, there were 3 questions focused on the preparation for teaching - preparation for both teachers and students. At the beginning, we were interested in whether the preparation of respondents for distance teaching is different from the preparation for full-time teaching. This question offered three possible answers: yes, no, and I don't know. More than 60% of respondents said that their preparation for distance learning is different from that for full-time teaching. In the following question, we wanted to know the differences. This question was open, and we were also surprised by the number of answers.

According to the respondents' answers, we can conclude the following: high school teachers basically agreed that they must spend more time preparing for

distance learning because they must do all the training electronically. They also need to prepare materials in more details so that students understand them during self-study. For some teachers, the EduPage web interface has a problem because they cannot put their materials into it. However, there are also those who praise distance learning because they find it easier to access video and image sources. On the other hand, many teachers also complained about the lack of study materials.

However, the responses from the students were more diverse. One group of respondents claims that they do not have enough motivation to learn. Their preparation is sloppy, because teachers still do not see whether they are cheating in writing or not. They do not spend enough time preparing, because they can search online the answers in a few seconds. Another group of respondents, on the other hand, devotes more time to the preparation and even praises such a system of teaching. They spend more time on subjects they enjoy than on subjects they do not like to go to. To illustrate, I choose a few answers: *"I devote more time to school because I have more time and energy than in face-to-face, I don't waste time."* *"I'm learning more,"* *"It may sound paradoxical, but I was preparing myself more than ever before. I devote more time to everything."* Students also compared the amount of homework they received from teachers during distance learning. Several of the respondents claimed that they were given significantly more homework, which they did not want to do because teachers still did not know what they were doing. The answers also differed in their understanding of the complexity of preparing for distance learning; for some, the preparation seemed too simple or none. On the contrary, some argued that they had to devote much more time to school, both because of the number of tasks they received from teachers and because of the complexity of the curriculum.

At the end of the survey, we used three open questions. After the questions focused on the preparation for teaching, we were interested in finding out what subjective benefits are perceived by students and teachers in distance teaching. The question was as follows: How would you like the distance learning to continue in full-time teaching? The answers that came were expected. Students, but also some teachers, want educational materials to continue to be available online. About recorded lesson materials, students considered it a great advantage to have access to these materials and to be able to replay or re-study them. Many of the answers were also the same in the requirement that in the event of a student's absence from the school in full-time teaching due to illness or other objective reasons, the student could join the lesson remotely, i. e. from the comfort of home. Some respondents mentioned the possibility of a combination of distance and full-time teaching, which was also the essence of the following question no. 16: Which of these teaching methods suits you better?

Although in the previous question many respondents stated that they would like to be able to choose from the full-time and distance form of teaching, only 23.5% stated in question no. 16 this possibility, e.g., a combined way of teaching. 27.3% of respondents would remain in distance education, 42.1% of the pupils and

teachers wanted to return to the full-time form of teaching, and 7.1% of respondents could not assess these three options.

The final question was open and here we were interested in the respondents' opinion on what could be improved in distance learning. The most common problem that respondents encounter is poor technical support - especially outages of the Internet connection and poor image quality of the camcorder or microphone. Students do not like teachers' access to distance learning - some teachers require students to have a video camera turned on and refuse to turn it on themselves; they do not like the presentation of the curriculum - some students would like the teaching to be more interactive and it is not just a dry reading of presentations that they can read themselves; and in particular poor or insufficiently explained curriculum, which they often have to study on their own without access to professional literature. Teachers tended to comment on the impossibility of teaching professional and practical subjects. However, most of the answers to this question come from the students.

By comparing foreign surveys, we see significant differences in the way data on online teaching is collected. Many studies also consider physical and psychological health, which was not the intention in the case of the submitted study (Chaturvedi et al., 2021). However, an extension of this study can also be the assessment and documentation of the progress of students' health during online classes. The opinions of students and teachers presented in this post are the subjective evaluation of a small sample of participants. Studies dealing with a similar survey mostly worked with a larger number of participants and with different age categories (Iwanaga et al., 2020; Bond, 2020).

4. CONCLUSIONS

The survey was carried out at the beginning of 2021, when distance learning lasted almost the whole year. The results of the survey showed that most schools used the online environment for the implementation of distance learning, especially teaching through real-time video conferencing and educational portals, especially for assigning tasks and exercises for students. Regarding the effectiveness of full-time and distance learning, the answers showed that respondents consider full-time teaching to be more effective than distance learning. In our opinion, however, the greatest informative value came from the open questions, in which the respondents were able to express their thoughts directly. The group of students expressed the same opinion in the mentioned questions - weak motivation in learning, lack of teaching materials, many tasks, lack of interest from teachers, reluctance to learn because they do not have to. Teachers also responded in a similar style - lack of interest on the part of students, lengthy and complicated preparation of teaching materials, their preparation for teaching and poor technical support.

Many educational institutions switched to distance learning in early 2020. Despite the presence of distance and online courses before the pandemic, their use was marginal compared to full-time courses. At present, the necessary technology for the educational process is represented in various forms and different degrees of

what we know as e-learning. The relationship between teacher and student in e-learning reaches a higher level of complexity. Students should have access to digital resources and materials provided by teachers in the e-learning system (Ibrahim et al., 2020).

Recommendation of the survey is that both students and teachers should accept and follow a set of rules about distance teaching, for example, they should turn on the camera to see each other, follow the schedule as the delay at one class can cause a significant delay in the following lessons, be more understanding, etc.

Surveys should be carried out more often, particularly among high school students and teachers, but also in universities. The expression of the subjective opinion of the respondents is a great benefit.

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