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TEACHER AND STUDENT OPINIONS ON ONLINE MATHEMATICS EDUCATION

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ABSTRACT

As a result of the Covid-19 virus becoming a pandemic in the world, all countries affected by the epidemic, as well as the Turkish Republic of Northern Cyprus (TRNC), have been affected by education, leading to the use of distance education over face-to-face education in order to slow down the spread of the virus in educational structures. According to the opinion of mathematics teachers and students, this study was conducted to identify both positive and negative aspects of the online mathematics lesson in light of these developments. In the research, descriptive survey design, one of the qualitative research methods, was used. Semi-structured interview forms were used to collect data from sixty-five students and eleven mathematics teachers. The data of the research were analyzed by content analysis. According to the results it can be said that, it has been stated that online education of the students creates an important advantage.

Contribution/Originality: This study is important in terms of guiding how the mathematics lesson, which is an applied lesson, should be taught during the epidemic period.

1. INTRODUCTION

Mankind has faced various crises and disasters many times in the historical process. One of them is the pandemic. The coronavirus (Covid-19) pandemic, which started at the end of 2019, is a problem for the whole world. This problem has affected social life, politics, economy and of course education as well as its current results. The Covid-19 pandemic has changed the perspective and way of interpreting education (Bozkurt & Sharma, 2020).

Technology is used in all educational institutions, from kindergarten to higher education. Rich teaching environments are created with the use of smart boards and the internet instead of a teacher-centered understanding, and active participation of students in the process is ensured. Within the framework of this understanding, environments where learners can progress at their own pace, independent of space and time, are accepted instead of traditional classrooms (Elyazgi, Mahrin, Rahim, & İmtiaz, 2014). The emergence of distance education, which dates back to the 19th century, in its current sense, dates back to the 1920s. A distance education program is one that uses computers and the internet to reach students (Newby, Stepich, Lehman, & Russell, 2006). Distance education has shown the ease with which individuals and countries adapt to technology. Distance education, which eliminates

the constraints of time and location, also offers the possibility of extending the period of learning (Kırık, 2014). In recent years, web-based teaching has been used as a tool in mathematics teaching to strengthen traditional classroom education (Ozyurt, Ozyurt, Baki, & Güven, 2013). Mathematics is a reliable tool for finding, explaining, supervising and transferring new information to the next generations and is an indispensable value for the individual and society (Güven, 1990).

It is stated that mathematics, which first emerged to meet the daily needs of individuals, has gained an important place in human life over the ages and has helped other disciplines (Bulut, 2003). With technological developments, for the solution of new problems; People who value mathematics, possess mathematical thinking abilities, and are able to solve problems with mathematics are in greater demand. One of the important inputs of education is considered as the readiness input (Bloom, 1995). New behavioral changes in education are accepted depending on the student's readiness (Basar, 2001). The level of readiness is expressed as the student's curriculum vitae. It includes the student's abilities, knowledge and skills, interests and attitudes (Bloom, 1995). The individual with a high level of readiness can comprehend the subjects faster and make comments on the subject. For this reason, the level of readiness should be kept high by meeting the physical needs of the individual, showing his emotional needs, love, and attention (Yenilmez & Kakmacı, 2008). The same is true when learning mathematics. If we compare mathematics to a chain of rings, the absence of a link in this chain adversely affects the linking of subsequent links. Another factor that creates these negative effects is readiness (Altun, 2005).

In general, it is known that distance education courses are carried out asynchronously and synchronously in today's world. In the lessons conducted synchronously, students and their teachers can communicate with each other life. In this method, students can simultaneously ask questions and tell their teacher about the parts they do not understand. In the asynchronous lesson, the student can watch the lessons over the internet whenever he/she wishes. In this method, students cannot find answers to their questions about parts that are not understood. Students continue their education on their own and may face problems such as loneliness and lack of communication.

Due to these problems, the most appropriate learning models should be used in online education systems (Ekici, 2003). Covid-19, which affected the whole world, started to be seen in the TRNC as of March 10, 2020. As soon as the first case was detected in the TRNC, the necessary measures were taken by the relevant institutions of the state to combat the epidemic. On March 11, 2020, education was suspended in schools and distance education was tried to be carried out asynchronously. Then, synchronous training was started between September 1 and October 12, 2020. This study, which was carried out to determine the status of Mathematics education during the Covid-19 Pandemic distance education process in the TRNC, is thought to be important because it will contribute to the determination of the problems experienced in the online education process, the development of solutions for them, and the healthier progress of such a process that will be repeated. Considering the main purpose of distance education, it is known that it is possible to address the entire target audience of distance education and to enable all students to benefit from educational activities. For this purpose, teachers' and students' opinions were discussed to determine the status of mathematics education carried out in the distance education process during the Covid-19 Pandemic period.

For this purpose, the following questions were asked to the mathematics teachers and students who contributed to the research, and their answers were received.

1) What are the opinions of students and teachers about the problems experienced in the distance mathematics education process during the Covid-19 Pandemic period?
2) What are the positive opinions of mathematics teachers and students about distance education?
3) What are the opinions of students and teachers about the comparison of online mathematics education and face-to-face education?

2. METHOD

In the research, descriptive survey design, one of the qualitative research methods, was used. With the use of a measurement tool that included open-ended questions, data was collected, analyzed, and descriptive findings and results were revealed. As it is known, such studies are not carried out with the aim of generalizing the obtained data, but with the aim of evaluating a case with its own characteristics (Yildirim & Jimsek, 2005).

2.1. Sample

The study group of the research consists of 65 students and 11 mathematics teachers determined by purposive sampling methods. While the 11-14 age range was taken as a criterion in the determination of the students, the mathematics teachers who gave education to this age group were taken as the criterion for the teachers.

2.2. Data Collection Tool

The researchers prepared semi-structured interview forms in order to solve the problem discussed in this study, and these forms were used to collect data. The interview form consists of 4 open-ended questions. The purpose of such studies is not to generalize the findings, but to evaluate a specific case based on its own characteristics (Yildirim & Jimsek, 2005). The interview form consists of two parts. The interview form was examined by 3 different experts in the field and necessary corrections were made. After the corrections were made, the form was given its final shape. The validity and reliability level of the data collection tool was determined and applied to the relevant participants.

2.3. Data Analysis

The data of the research were analyzed by content analysis. According to Cohen, Manion, and Morrison (2007) content analysis is also defined as the process of summarizing and specifying the basic contents of the written information and the messages they contain. For content analysis, teacher and student views were coded, and the views determined according to frequency were also themed separately under the dimension of teacher and student. While stating the research findings, direct quotations are included when deemed appropriate in order to draw attention to the views of teachers and students. While T1, T2, .. coding for teachers was used for citations, codes such as S1, S2, ... were used for students.

3. FINDINGS

In this part of the research, the findings obtained in line with the data were divided into themes and categories and indicated with tables.

Table 1. Demographic characteristics of teachers.

Demographic Variable		N	%
Gender	Female	6	54.55
	Male	5	45.45
	Total	11	100
Professional Working Time	0-5 years	1	9.09
	6-10 years	2	18.18
	11-15 years	6	54.55
	16-20 years	1	9.09
	21-25 years	1	9.09
	Total	11	100

As seen in Table 1, a total of 11 mathematics teachers, six female, and five male, participated in the study. It is seen that the majority of the teachers who make up the study group of the research have academic experience between 11 and 15 years.

Table 2. Demographic characteristics of students.

Demographic Variable		N	%
Gender	Female	32	49.23
	Male	33	50.77
	Total	65	100
Age	11 years	11	22.92
	12 years	18	37.50
	13 years	14	29.17
	14 years	22	45.83
	Total	65	100
Grade	6th grade	19	29.23
	7th grade	10	15.38
	8th grade	36	55.38
	Total	65	100

When Table 2 is examined, a total of 65 students, 32 girls and 33 boys, participated in the study. It is seen that 19 of the students participating in the research are at the sixth grade, 10 are at the seventh grade and 36 are at the eighth grade level.

Table 3. Teachers' views on online education achievements.

Category	Theme	f	%
Advantages of online education	Conducting the lessons	2	18.18
	Developing technology usage knowledge	7	63.64
	Staying safe at home	2	18.18
	Total	11	100

When the opinions of the teachers stated as in Table 3 are examined, it has been revealed that teachers have gained the ability to use computers and technology better thanks to online education during the pandemic period. The opinion expressed by T1 on this issue is as follows;

T1: "During the pandemic, I had to learn to use applications such as Zoom, Jitsi, Google Classroom, Moodle and to use a graphic tablet to better explain the mathematics lesson in order to communicate with my students".

Teachers have improved themselves in the use of computers and online applications in order to provide online education to their students. In the ever-changing world of education, teachers need to adapt the learning process to new educational environments by using their knowledge and experience (Gomez, 2020). When the table is examined, it is seen that most of the teachers expressed their views on the development of technology usage knowledge. This suggests that the materials used make the lesson more effective and enjoyable. The use of technology will also enable teachers to conduct research and be informed about innovations made around the world. In addition, they will have the opportunity to reach all scientific studies related to their field around the world. Thus, it is thought that the level of competitiveness in education can be reached worldwide.

When the views of the students in Table 4 are examined, it can be said that the students mostly stated that they were satisfied with the fact that they were able to do their lessons thanks to online education during the Pandemic period and that they were not far from mathematics education. Pınar and Dönel Akgül (2020) concluded in their study that they found the online education applications applied to the students during the pandemic period useful and evaluated them as a good alternative to avoid disconnection from education.

Table 4. Student views on online education achievements.

Category	Theme	f	%
Advantages of online education	Classes are not missed	32	49.23
	Using the programs	12	18.46
	Not wearing a uniform	5	7.69
	Spending time with family	4	6.15
	Understanding the value of face-to-face education	7	10.77
	Staying safe at home	5	7.69
	Total	65	100

Table 5. Teachers' views on the negative effects of online education.

Category	Theme	f	%
Negative effects of online education	Internet Problems	4	36.36
	Attention deficit in students	2	18.18
	No eye contact with the student	2	18.18
	Eye and headache	3	27.27
	Total	11	100

In line with the opinions of teachers on the negative effects of online education, as indicated in Table 5, it was determined that the highest participation was internet problems with 36.36%. It is stated that there are problems such as internet problems, speed problems due to technical infrastructure, internet overload, swelling in the database, video conferencing mishaps, image freezes, sound not clear, technical limitations (Bilgic & Tuzun, 2015; Öztaş & Kılıç, 2017). This situation prevented the students and teachers from teaching effectively from time to time and disrupted the course of the lesson.

Table 6. Student views on the negative effects of online education.

Category	Theme	f	%
Negative effects of online education	Internet Problems	13	20.00
	Unhappiness	7	10.77
	Inability to focus on lessons	14	21.54
	Difficulty understanding from the screen	7	10.77
	Eye and headache	24	36.92
	Total	65	100

When the students' opinions on the negative effects of online education are examined with Table 6, it was determined that the highest participation this time was eye and headache with 36.92%. Findings obtained in line with student opinions reveal that online education, which is made during the pandemic period by taking advantage of the opportunities offered by the digital age, is beneficial in terms of education, but also threatens the eye health of students. Considering the Physiological part, which is the lowest level of Maslow's hierarchy of needs, it is stated that the student who experiences any discomfort is unwilling to continue the lesson and is unmotivated to learn. This situation also reveals that students' experiencing such discomfort may prevent them from learning.

Table 7. Teachers' views on online mathematics education.

Category	Theme	f	%
Opinions about online mathematics education	It was not efficient	6	54.55
	The number of students attending the course was low	3	27.27
	Lessons were conducted in a teacher-centered manner.	1	9.09
	Development of technological knowledge	1	9.09
	Total	11	100

When Table 7 is examined, it is seen that 54.55% of the teachers stated that distance education is not efficient for mathematics lessons. In addition, this situation reveals that not all courses are suitable for distance education. In particular, the lack of communication in the learning environment as in face-to-face education and the inability to provide instant feedback and corrections during learning can be given as examples of the inadequacy of distance education (Dincer, 2016). The pandemic period has actually shown once again how important the role of the teacher is in education and training, whether online or face-to-face. Therefore, at this point, it is expected that teachers move away from traditional teaching methods and give up their negative perspectives on distance education in order for online lessons to be efficient (Dada, 2006).

Table 8. Student opinions about online mathematics education.

Category	Theme	f	%
Opinions on online mathematics education	Difficulty understanding the lesson from the screen	26	40.00
	Inability to learn the subjects	35	53.85
	Development of technological knowledge	4	6.15
	Total	65	100

When the opinions of the students about online mathematics education were examined with Table 8, it was determined that 93.85% of them expressed the opinion that the subjects were not fully learned and that there was difficulty in understanding the lesson on the screen. Considering that learning takes place thanks to the bonds that students form between the knowledge they have and the knowledge they have just acquired, problems such as misconfigurations in the minds of the students or inability to learn properly may arise in line with the problems or situations they encounter. In particular, the misconfigurations in the minds of the students cause the foundations of the concepts they will learn in the coming years to be weak, the new concepts to be misconfigured, and they have difficulties in adapting the concepts to daily life (Buyruk & Korkmaz, 2016). In this context, the online course that needs to be done can be recorded and then this course can be shared with the students. The student can watch and understand the parts that they do not understand again and again.

Table 9. Teachers' view on the comparison of online mathematics education and face-to-face education.

Category	Theme	f	%
Comparison of online mathematics education and face-to-face education	Face-to-face training is better	11	100
	Total	11	100

Table 10. Student views on the comparison of online mathematics education and face-to-face education.

Category	Theme	f	%
Comparison of online mathematics education and face-to-face education	Face-to-face training is better	62	95.38
	Online education is better for being healthy at home	3	4.62
	Total	65	100

The views of teachers and students on the comparison of online mathematics education and face-to-face education are given in Table 9 and Table 10. As indicated in both tables, it has been stated that face-to-face education is more efficient than online education. As stated in previous studies (Bal, 2001; Kandemir, 1999; Kaymakcioglu, 1996; Perraton, 1983; Schuttle, 1997; Serter, 1986; Summer & Hostetler, 2002) the main components behind the opinions of all teachers that face-to-face education is more efficient, suggest that face-to-face teaching is due to its positive contributions to providing students with the necessary feedback, socialization, and providing the necessary study skills. It is thought that the students who find face-to-face education better are those who cannot

receive feedback, are not aware of whether they have acquired the necessary skills, and feel lonely and unhappy in the system. The view expressed by k1 on this issue is as follows;

"Of course, it's face-to-face training. I'm happy at school; I don't want to do online lessons unless I have to. There may be online mathematics lessons to support face-to-face education, but that's it.

In order to reveal the differences of teachers' views on online education according to their professional experience, the tables are given.

Table 11. Opinions of teachers according to their related professional experience gained by online education.

Category	Theme	Professional Experience					f	%
		1-5y	6-10y	11-15y	16-20y	21-25y		
The benefits of online education	Lessons were done.	-	-	1	-	1	2	18.2
	Using technology more actively	1	1	5	-	-	7	63.6
	stay safe at home	-	-	-	1	1	2	18.2
	Total	1	1	6	1	2	11	100

As stated in Table 11, it has been concluded that teachers with 11-15 years of professional experience have the opportunity to use technology more actively in the online education process, and only teachers with 15 years or less professional experience use technology. However, in addition to using technology effectively, teachers should also benefit from information technologies in teaching activities. Similarly, Kutluca and Ekici (2010) examining teachers' self-efficacy beliefs towards technology and their attitudes towards information technologies, stated that teacher beliefs should be positive towards information technologies. Considering the problems experienced by the students in the classrooms of teachers who do not use technical knowledge, due to both the internet disruptions and the difficulty of the course, it reveals that adequate teaching cannot be provided.

Table 12. Teachers' views on the negative effects of online education according to their relevant professional experiences.

Category	Theme	Professional Experience					f	%
		1-5y	6-10y	11-15y	16-20y	21-25y		
Online eğitimin olumsuz etkileri	Internet problems			4			4	36.4
	Attention deficit in students	-	1	-	-	1	2	18.2
	No eye contact with the student	1	-	-	-	1	2	18.2
	Eye and headache	-	-	2	1	-	3	27.3

When Table 12 is examined, it is revealed that teachers with 11-15 years of professional experience internet problems in the online education process, but teachers with 15 years or more experience do not encounter internet problems because they do not include information technology in their classrooms Students, in Keskin and Ozer-Kaya (2020) Kaya's study on evaluating online education, reported experiencing a lack of communication and technical difficulties. In the study conducted by Depaepe and König (2018) it was stated that the disadvantages of distance education are due to the lack of technical support. In another study, According to Koç (2020) the disadvantages of online education include lack of interaction between the teacher and the student, absence of regular attendance, and technical problems.

As seen in Table 13, it can be determined that most teachers with 11-15 years of professional experience express the opinion that distance mathematics education is not efficient in the online education process. The opinion of T2 on this issue is as follows;

T2: "I noticed that my students had low motivation, were tired of sitting in front of the screen, had difficulty in concentrating, and were reluctant to learn because they did not come to school during the pandemic process."

When the opinions of teachers with 15 years or less experience are compared with those of teachers with 15 years or more experience, it is seen that the teachers with 15 years or less experience think that the reason for the

ineffectiveness of the courses in the low number of students attending the course, while the teachers with 15 years or more experience. On the other hand, he thinks that the ineffectiveness of the lessons is due to the fact that the lessons are teacher-centered. This situation again suggests that teachers with 15 years or more experience do not use technical knowledge.

Table 13. Teachers' views on distance mathematics education according to their professional experience.

Category	Theme	Professional Experience					f	%
		1-5y	6-10y	11-15y	16-20y	21-25y		
Opinions about distance mathematics education	It was not efficient	1	-	5	-	-	6	54.5
	The number of students attending the course was low		1	1	1	-	3	27.3
	The lesson is teacher-centered	-	-	-	-	1	1	9.09
	Technological knowledge has developed	-	-	-	-	1	1	9.09
	Total	1	1	6	1	2	11	100

Table 14. Teachers' views on the comparison of online mathematics education and face-to-face education according to their professional experience.

Category	Theme	Professional Experience					f	%
		1-5y	6-10y	11-15y	16-20y	21-25y		
Comparison of online mathematics education and face-to-face education	Face-to-face education is better	1	1	6	1	2	11	100
	Total	1	1	6	1	2	11	100

With Table 14, all teachers participating in the research emphasize that regardless of their professional experience, face-to-face mathematics education is more effective in students' learning. With face-to-face education, the interaction between the teacher and the student increases, the teacher can better understand the needs of his students, can notice the points in the lesson and give immediate feedback.

The following tables are given in order to reveal the differences in the opinions of the students participating in the research according to their grade level.

Table 15. Student opinions according to the classes they have gained through online education.

Category	Theme	Grade			f	%
		6th grade	7th grade	8th grade		
The benefits of online education	Classes were not missed	10	4	18	32	49.23
	Using programs	8	-	4	12	18.46
	Not wearing a uniform	-	1	4	5	7.69
	Spending time with my family	1	-	3	4	6.15
	Understanding the value of face-to-face education	-	3	4	7	10.77
	Stay safe at home	-	2	3	5	7.69
	Total	19	10	36	65	100

When Table 15 is examined, it is thought that most of the students stated that the lessons were not missed, but only 6th-grade students were not aware that they were teaching safely at home because they could not use the programs, and therefore they could not understand the value of face-to-face education.

As seen in Table 16, it has been determined that students experience eye and headaches due to taking lessons from the screen during the online education process. Khan, Kamal, Illiyan, and Asif (2021) similarly, stated that

students were not satisfied with online education due to connection problems, eyestrain or coming from a low socioeconomic family during the Covid-19 pandemic.

Table 16. Students' opinions according to the classes they have gained by online education.

Category	Theme	Grade			f	%
		6th grade	7th grade	8th grade		
Negative effects of online education	Internet problems	4	4	5	13	20.00
	Unhappiness	3	-	4	7	10.77
	Inability to focus on lessons	-	2	12	14	21.54
	Difficulty understanding on screen	5	-	2	7	10.77
	Eye and headache	7	4	13	24	36.92
	Total	19	10	36	65	100

Table 17. Students' opinions regarding distance mathematics education according to their classes.

Category	Theme	Grade			f	%
		6th grade	7th grade	8th grade		
Opinions about distance mathematics education	Difficulty understanding from the screen	5	5	16	26	40.00
	Inability to learn the subjects	11	4	20	35	53.85
	The development of technology information	3	1	-	4	6.15
	Total	19	10	36	65	100

As can be seen in Table 17, it can be determined that the students are not able to learn the subjects related to distance mathematics education completely. Gope, Gope, and Gope (2021) stated that the digital teaching and learning environment created a big gap between students and they could not understand the lesson sufficiently.

Table 18. Students' views on the comparison of online mathematics education and face-to-face education according to their classes.

Category	Theme	Grade			f	%
		6th grade	7th grade	8th grade		
Comparison of online mathematics education and face-to-face education	Face-to-face education is better	19	10	33	62	95.38
	Online education is better for being healthy at home	-	-	3	3	4.62
	Total	19	10	36	65	100

With Table 18, a comparison of online mathematics education and face-to-face education was made according to the grade levels of the students. In line with the findings, it was seen that all level students stated that mathematics education is better done face to face, but only some of the 8th-grade students expressed the opinion that online education is better in order to be healthy at home. It is known that face-to-face education is an application that meets the needs of students to be social, and they have the opportunity to ask questions to their teachers instantly during the lesson. With face-to-face teaching and mathematics education activities in the classroom environment, student needs are determined. Similarly Yilmaz and Sönmez (2022) especially in line with the experiences of the instructors, they underlined that students lose their motivation by experiencing distraction.

4. CONCLUSION AND SUGGESTION

4.1. Conclusion

Due to the COVID-19 Epidemic, education and training were suspended in the TRNC as well as in the rest of the world. In these disaster conditions, instead of planned and structured distance education, and urgent distance

education process that can maintain the teacher-student contact in the current conditions and that does not give up the basic achievements of the students has to be implemented quickly. In this context, the positive and negative results of online distance mathematics lessons during the Covid-19 epidemic were expressed in line with the opinions of teachers and students. Positive aspects of online education are in line with the opinions of teachers; Although there is no classroom environment, it is possible to hold the lessons in the places where the students are, the opportunity to reach the majority, if not all, of the students, the lessons are carried out according to the weekly curriculum given by the school administration, the teachers can improve their technical knowledge, the design of various materials and activities is possible, and most importantly, It has been stated that it is expressed as being able to continue education actively in houses, which are a safe environment where lessons are not interrupted. It can be said that teachers who stay away from using technology in this process have improved themselves by using technology and it is possible to conduct lessons more effectively and efficiently. The positive aspects of online education, which are handled in line with student opinions, are that mathematics lessons are not wasted so that mathematics information can be kept fresh, new information can be continued, many application programs can be learned by improving the use of technology, the opportunity to spend more time with families, staying safe at home. It has been seen that there are six categories: not having to wear a uniform in online classes understanding the value of face-to-face education and school. According to the results obtained, it has been stated that online education of the students creates an important advantage in terms of meeting their educational needs and that the most important advantage of online education is that it provides support for education during the Covid-19 Pandemic period. In this case, it can be said that the aspects that seem advantageous in the evaluation of distance education are the use of technology and the increasing skills and awareness on this subject. In addition to the advantages of distance education, the sudden change that occurred due to the covid-19 epidemic negatively affected teachers and students and prevented them from adapting to this system. In addition to the lessons, the school is an institution where students can spend time with their peers, socialize, learn discipline, help each other, share and make friends, and prepare people for life. In this process, although the educational needs of the student are met at a certain level, the socialization, mutual communication and interaction between the student-teacher and the student-student remain incomplete. Although attempts are made to provide a certain level of active lesson flow in education, unfortunately, among the factors that reduce the efficiency of online education during the pandemic process, internet access and technical problems, inequality of opportunity among students, inability to focus, not being able to fully understand the mathematics lesson from the screen, long-term exposure to the screen are among the factors that reduce the efficiency of online education. It has been concluded that there are physical problems caused by.

4.2. Suggestion

The aim of the study is to develop solutions to the problems that will arise during the online mathematics lesson, based on the opinions of teachers who have experienced the online mathematics lesson process within the scope of distance education during the Covid-19 pandemic process. In this context, suggestions are presented in this part of the research, depending on the research results. When the findings obtained for this purpose are examined; Since theory and problem solving are not separate from each other in mathematics lessons, it has been determined that it is very difficult to conduct such lessons with the distance education method, as the student needs observation and help while solving the questions. In particular, it is seen that there is very little interaction between students and teachers, making mathematics lessons difficult to understand and students' motivation towards the lesson is low. For this reason, it can be suggested that teachers should make changes in the teaching methods and techniques of the mathematics course, stronger communication with students, activities that will increase student motivation and make students more active. In addition, in-service training can be provided by the Ministry on the materials, methods and techniques to be used by teachers in order to make online mathematics lessons more efficient. In this study, it was concluded that the viewpoints of teachers and students towards conducting mathematics lessons with

online education in general are negative, and what needs to be done should be to prefer blended education methods that apply both traditional and distance education methods together. Because today, considering that it will be very difficult to carry out educational activities without using information technology products, teachers are also expected to feel willing and responsible for using technology. For this reason, teachers should improve themselves and try to learn new information in order to overcome their deficiencies outside the classroom. The Ministry of National Education and Culture should contribute to students' problems related to technological devices and the Internet in order to create equal opportunities in education. Although it is not known how long the pandemic process will last, students should not be left without computers and internet. The Ministry can reorganize and improve its education programs to include online mathematics courses. In addition, the curriculum can be reduced if necessary.

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