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The Use of Interactive PowerPoints to Increase Elementary School Student's Learning Outcomes and Motivation in Mathematics during the Pandemic

Elizabeth Jerika[1], Disa Evawani Lestari[2]

[1, 2]President University, Jl. Ki Hajar Dewantara, Kota Jababeka, Cikarang Utara, West Java, Indonesia
elizabeth.jerika@president.ac.id

Abstract

The Covid-19 pandemic has been disturbing every human activity, including education. Schools are shifted to online learning, forcing teachers and students to teach and study from their homes. Several issues that arise due to this are problems with motivations and learning outcomes. In order to increase elementary school students' learning outcomes and motivation in Mathematics, this research uses an interactive PowerPoint as the learning media. The subjects in this study are 25 students on the grade 6th of a private elementary school in Bekasi, Indonesia. The research methodology is mixed method, the quantitative data was taken by pretest and posttest and the qualitative data by survey questionnaire and interview with the students and mathematics teacher which is also the homeroom teacher. The data was analyzed using paired samples T-Test and thematic analysis. The quantitative results show that the interactive PowerPoint media is able to improve the students' learning outcomes. However, the results had shown an insignificant value of 0.377 and considered as not significant. At the same time, there are unexpected findings from the external factors that cause the result not to be significant, in which the student's parents and family are involved during online learning. Despite the low significance results, through the interview, both of teachers and students stated that the interactive PowerPoint learning media that was used in mathematics during this pandemic has successfully engaged the students and increased their learning motivations.

Keywords: PowerPoint, Learning, Motivation, Mathematics

Abstrak

Pandemi Covid-19 telah mengganggu semua aktivitas manusia, termasuk bidang pendidikan. Sekolah dialihkan ke pembelajaran daring yang memaksa guru dan siswa untuk mengajar dan belajar dari rumah mereka. Beberapa masalah yang muncul dari hal ini adalah masalah motivasi dan hasil belajar. Untuk meningkatkan hasil belajar dan motivasi siswa sekolah dasar pada mata pelajaran matematika, penelitian ini menggunakan PowerPoint interaktif sebagai media pembelajaran. Subjek dalam penelitian ini adalah 25 siswa kelas 6 SD di salah satu SD swasta di Bekasi, Indonesia. Metodologi penelitian ini adalah *mixed method*, data kuantitatif diambil dengan menggunakan pretest dan posttest serta data kualitatif melalui survey kuisioner dan wawancara dengan siswa dan guru matematika yang juga merupakan wali. Data dianalisis dengan menggunakan *Paired Sample T-Test* dan analisis tematik. Hasil penelitian menunjukkan bahwa media PowerPoint interaktif mampu meningkatkan hasil belajar siswa. Namun hasil peningkatannya terlalu kecil, hanya 0,377 dan dianggap tidak signifikan. Pada waktu bersamaan, ada temuan lain yang tidak terduga dari faktor eksternal yang mengakibatkan hasil tidak signifikan, yaitu orangtua dan keluarga siswa ikut terlibat dalam pembelajaran daring. Terlepas dari hasil yang kurang signifikan, melalui interview, baik guru maupun siswa menyatakan bahwa media pembelajaran PowerPoint interaktif yang digunakan dalam matematika selama pandemi ini telah berhasil mengajak dan meningkatkan motivasi belajar mereka.

Kata kunci: PowerPoint, Pembelajaran, Motivasi, Matematika

✉ Corresponding author: Elizabeth Jerika
Email Address: elizabeth.jerika@president.ac.id (Jl. Ki Hajar Dewantara, Kota Jababeka, Cikarang Utara)
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INTRODUCTION

The Covid-19 pandemic has spread worldwide rapidly and disturbing our activities since the first time discovered in 2019 (Buonsenso et al., 2020). According to Kementrian Pendidikan dan Kebudayaan (2020), all school levels in Indonesia are forced to close and shifted into online learning from homes from March 2020. Both the teacher and students must be able to adapt with this situation

even though they are not accustomed with the online learning environment. Those rapid changes are important to do to prioritize students' safety and apply the Covid-19 social distancing rules. Thus, this awful condition has become an emergency in the education sector.

Along with this new learning situation, there are several online learning problems that arise from this prolonged pandemic. As cited from forum discussion by Kementrian Pendidikan dan Kebudayaan (2021), there are several negative impacts that happened after one year of online learning. Those problems are technical problems, tuition/economic problems, lack of parents' support, lack of relations with teachers and peers, and academic problems. This condition happened at the elementary, junior high school, and high school levels in Indonesia. In accordance with that, Widikasih et al., (2021) also mention several online learning problems such as the incapable learning devices, difficulty in understanding the lessons, and low motivations. Hence, after applying online learning for one year, we can list several problems that arise and try to solve them one by one.

Among the problems that happened during online learning in Indonesia, the learning outcomes and motivation problem keeps repeating and becoming critical problems. Learning outcomes defined as the students' achievement in knowledge, skills, or behavior as the results after learning (Adam, 2006). In teaching, learning outcomes are defined as something that the teacher expects towards the learner after attending the class (Hussey & Smith, 2008). In other words, learning outcomes are the specific measurable of students' achievement in learning.

At the same time, the definition of motivation according to Dörnyei and Ottó (1998) is the dynamic arousal in each person that directs, coordinates, and amplifies them to act out or to do something as desired. The type of motivation that is discussed in this research is intrinsic motivation. Intrinsic motivation is the personal drive of a person to perform tasks by themselves. In mathematics, intrinsic motivation is an essential factor for students because mathematics requires stronger intrinsic motivation to solve difficult tasks and study in general (Gottfried1985, 1990) In fact, during this Covid-19 pandemic situation, the students with high levels of self-motivation, determination, and independence have excelled in study, meanwhile the others who lack awareness are struggling (Bryant et al., 2020). These days, the Covid-19 pandemic might also become the cause of students' low learning outcomes and low motivation. This research is discussing the student's academic performance in mathematics during this pandemic.

Although these academic problems did happen before this pandemic, it is still one of the most crucial problems found during online learning in this pandemic (Kuhfeld et al., 2020). It is proved by the difficulty that the teacher faced in teaching the materials holistically (Fauzi & Khusuma, 2020). At the same time, some students stated that they lack learning motivation in attending online learning (Sriwichai, 2020). Thus, we can assume that learning outcomes and motivation issues are examples of problems that keep occurring since the early period of online learning in this pandemic.

To overcome the learning outcomes and motivation problems, it is necessary to use digital learning media such as interactive PowerPoint presentations to regain students' attention and increase

learning motivation. PowerPoint presentation is the presentation program that allows the user to create educational outlines and more (Techopedia, 2020). This program is one of the most common learning media that is used during online learning in this pandemic due to its benefits and features. PowerPoint presentation is useful to teach materials that require visualization of the concepts (Xingeng & Jianxiang, 2012).

The PowerPoint presentation that was used in this research is the interactive presentation. According to (Nguyen, 2022), the definition of Interactive presentation is the presentation which allows 2 ways communication between the presenter and the audience where the content of presentations are customized and suitable for the audience, well visualized, and including fun games, decorations, or interactive activities. Tomei (2008) also defines interactive lessons as the lessons that are suitable with the students' pace, individualized, and include formative and summative evaluations to measure student learning outcomes.

On the other hand, Nurseto (2011) explained that PowerPoint presentation is an interesting learning media that able to display interesting pictures, graphics, animations, and many more to enhance students' understanding. PowerPoint presentation is arguable as a powerful program that can make the students glued to the presented screen during online learning (Wanti, 2020). Ozaslan and Maden (2013) explains that the visualization delivery from design, animations, colors, illustration, picture, and video are appealing for students. PowerPoint presentation is able to create interactive and fun learning media that will increase students' understanding and learning outcomes in mathematics (Murwani, 2020; Indriani, 2021). Using PowerPoint presentations in mathematics is considered a good idea because mathematics is a complex subject and requires extra attention (Singh et al., 2002). Based on the features, we can consider that PowerPoint Presentation media is effective to be used by teachers during online learning in this pandemic. Thus, we can assume that the PowerPoint presentation itself and the decorations added will be able to increase students' learning and motivation effectively in mathematics during online learning.

There are several previous studies by the experts that discussed the use of PowerPoints learning media to increase elementary school students learning and motivation in mathematics. However, those similar research has a major difference in terms of timeline, some already happened before this pandemic, and some during this pandemic. For examples Bartsch and Cobern (2003) and Clark (2008) study about the effectiveness and the use of PowerPoint presentations in teaching before the Covid-19 pandemic and Susanti (2020) study about the utilization of PowerPoint presentations during this pandemic situation.

At the same time, this research is commonly used in secondary school (Hikmah & Maskar, 2020; Lari, 2014) and higher education (Sewasew et al., 2015; Clark, 2008) which are less relevant with the elementary school students' condition. Furthermore, the subjects that are chosen are usually English and natural science. Rahardjo and Pertiwi (2020) and Kaharuddin (2020) discussed about the utilization of technology to increase student's learning motivation in English subjects during this

pandemic, meanwhile, (Purwanti et al., 2020) and Permadi and Mentari (2020) discussed the application of PowerPoint learning media in natural science especially, in growth and development of animals and plants topic.

In the end, only a few studies are conducted in elementary school, targeting mathematics, and focusing on the utilization of PowerPoint presentation as the learning media, such as Wanti (2020) and Octaviana and Setiawan (2019) who study about the enhancement of elementary school student's counting skills and learning motivation using PowerPoint learning media. Hence, we can conclude several gaps from the previous research by the experts that can be improved in this research.

Departing from the gap, this research is aimed to solve the students' learning outcomes and motivation problems in mathematics using PowerPoint presentation as the learning media during this pandemic. This research analyzes the significance of PowerPoint presentation as the learning media that frequently used during online learning to increase student's learning outcomes and seek new perspectives from the teacher and students regarding the use of PowerPoint presentation learning media to improve motivation. This research is applicable for elementary school students who currently suffer learning and motivation derivation problems in mathematics during synchronous online learning. The target of this research are the 6^{th} grade students of one private elementary school in Bekasi who are currently learning through synchronous online learning.

In conclusion, due to the arising online learning problems during this pandemic, this research is focusing to solve the elementary school students' learning outcomes and motivation problems in mathematics subjects during the Covid-19 pandemic. This research is limited to grade 6 elementary school students who are learning through online learning and only use PowerPoint presentations as the learning media. Therefore, this study analyze "The Use of Interactive PowerPoints to Increase Elementary School Student's Learning Outcomes and Motivation in Mathematics during the Pandemic"

METHOD

Research design

The research design that was used in this research is a mixed method. Mixed methods is research method which contains both the qualitative and quantitative substudies (Tashakkori & Creswell, 2007). At the same time, triangulation data and method analysis are also used. Triangulation data is the combination of two or more points of view, methodological approaches, data sources, investigations, or data analysis (Thurmond, 2001). The purpose of using the quantitative method is conducted to investigate the students' learning outcomes after treatment. Meanwhile, the qualitative method is used to explore students and teacher perspectives towards the use of PowerPoint presentation learning media. In this research, the independent variable or the cause is the interactive PowerPoint presentation and the dependent variable or the effect is the student motivation.

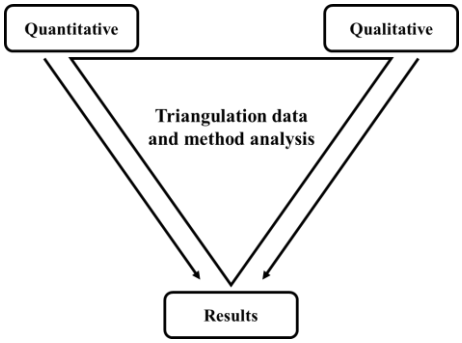


Figure 1. Triangulation data and method analysis in online learning

Instruments

This research is using quantitative and qualitative methods. The purpose of quantitative data collection is to get the data of student's learning outcomes. The quantitative data is gathered by pretest and posttest, before and after the treatments. The pretest and posttest questions consist of 10 questions each, divided into two questions type namely the open-ended questions and essay. Both the student's pretest and posttest results are submitted to the Google Classroom (mathematics) that the teacher made.

Meanwhile, the qualitative data was gathered by questionnaires and interviews. The qualitative data aims to seek students' learning motivation. The questionnaire is using Likert scale to measure and record the participants agree or disagree responses based on the strongly agree, agree, neutral, disagree, or strongly disagree scale (Albaum, 1997). The students are required to fill the survey questionnaires using Google Form. The interview data gained from an interview session with 8 students and 1 homeroom teacher (N=9). The interview was held through the Google Meet platform.

Procedure

There are several research procedures that are designed in this research. The first step is from the quantitative data, after the test was filled by the students, the researcher waited for the homeroom teacher to grade the pretest and posttest results. The data that already gathered was analyzed using comparative analysis (comparing the pretest and posttest result by paired sample T-Test) using the SPSS program 26th edition and using 0,05 as the level of significance. This analysis was used to find the improvement of learning outcomes. The hypothesis of this research show as the following.

H_0: $\mu pre \geq \mu post$

H_1: $\mu pre < \mu post$

The second step is the qualitative data, the researcher held an interview session with eight students that are selected based on the survey questions and pretest-posttest score. The researcher also interviewed the mathematics teacher which is also the class 6A homeroom teacher. After the qualitative data are gathered, the researcher analyzes it using thematic analysis from the audio transcript. The author will keep the participants' data by using pseudonyms. This method was applied based on students answers that categorized into several keywords or sentences and a theme. This analysis is used to find the improvement of motivation after the treatment.

The next step, the quantitative and qualitative data triangulate to get the final result. In this step, the result of qualitative which is the improvement of motivation analyzed its ability to improve student learning outcomes.

Participants

The sampling of this research are the 6th grade students of one private elementary school in Bekasi, West Java, Indonesia. The participants of this research are 25 students (10 male and 15 female students) and one homeroom teacher/mathematics teacher. The ages range of the students from 11 to 13 years old. During this pandemic, the students are currently learning through synchronous online learning using *Zoom* meetings and the teacher teaches online from school.

RESULTS AND DISCUSSION

Quantitative Data

Here is the table of pretest and posttest data of 25 grade 6 students analyzed using statistical mathematical methods.

Table 1. Students' mathematics pretest and posttest score

Students	Pretest	Posttest	Students	Pretest	Posttest
1	100.00	100.00	**14**	92.00	96.00
2	98.00	100.00	**15**	88.00	100.00
3	98.00	96.00	**16**	76.00	96.00
4	100.00	100.00	**17**	86.00	90.00
5	96.00	80.00	**18**	100.00	100.00
6	96.00	93.00	**19**	92.00	96.00
7	100.00	96.00	**20**	100.00	93.00
8	84.00	83.00	**21**	100.00	100.00
9	100.00	100.00	**22**	88.00	93.00
10	92.00	96.00	**23**	96.00	93.00
11	88.00	100.00	**24**	80.00	93.00
12	96.00	93.00	**25**	100.00	96.00
13	100.00	96.00			

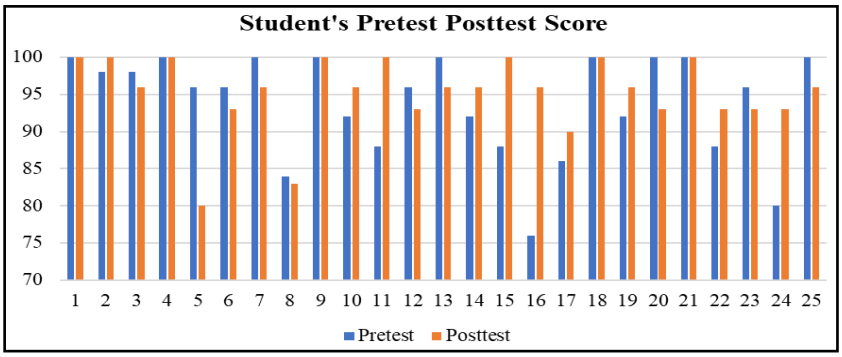


Figure 2. Student's pretest and posttest scores in scale 70-100

From Figure 2, we can see the student's pretest and posttest score comparison based on the bar chart color. The blue color represents the pretest score and the orange color represents the posttest score. Therefore, we can analyze the data further by using SPSS application.

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Pretest	25	76.00	100.00	93.8400	6.99809
Posttest	25	80.00	100.00	95.1600	5.10457
Valid N (listwise)	25				

Figure 3. Descriptive Statistics Result

From 25 students, the minimum score for the pretest is 76.00 and the maximum score is 100.00. The mean of the pretest is 93.8400 with a standard deviation (STD) 6.99809. The minimum score for the posttest is 80.00 and the maximum score is 100.00. The mean of posttest is 95.1600 with a standard deviation (STD) 5.10457.

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Pretest	93.8400	25	6.99809	1.39962
	Posttest	95.1600	25	5.10457	1.02091

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	Pretest & Posttest	25	.297	.149

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1	Pretest - Posttest	-1.32000	7.33553	1.46711	-4.34796	1.70796	-.900	24	.377

Figure 4. Paired Samples T-Test Result

From figure 4 we can see that the improvement is only 1.32000. The value of T is -0.9 that is significant at 0.377. The significance (0.377) is more than 0.05 it means that H_0 accepted, or the improvement (1.32000) is too small or not significant.

Qualitative Data

Interview

Students		
Students	**Gender**	**Description**
1	Female	Top performer student
2	Female	Top performer student
3	Female	Top performer student
4	Male	Top performer student
5	Female	Increase score
6	Male	Increase score
7	Female	Decrease score
8	Male	Decrease score
Teacher		
Teacher	**Gender**	**Description**
9	Female	Mathematics Teacher and Class VIA Homeroom Teacher

Figure 5. Interviewed Participants (N=9)

Survey Questionnaire

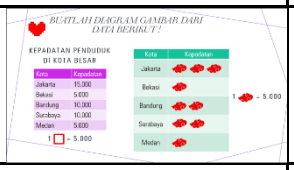
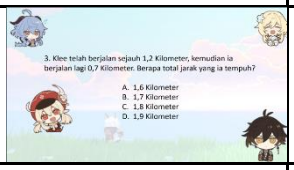
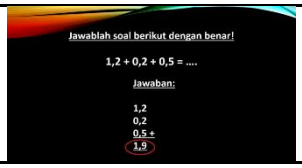
No	Questions	Results	
1	Did online learning/distance learning during the COVID-19 pandemic stress you out?	**76% No**	**24% Yes**
2	Which one do you prefer? online learning or offline learning?	**24% Online Learning**	**76% Offline Learning**
3	For mathematics, which one do you like the best? Teacher explanation on the whiteboard or PowerPoint Presentation?	**32% PowerPoint Presentation**	**68% Teacher explanation on whiteboard**
4	Which PowerPoint Presentation style do you prefer?	**92% Plain With Decorations**	**8% Plain Without Decorations**
			
5	Which PowerPoint Presentation style do you prefer?	**76% Colorful with decorations**	**24% Colorful without decorations**
			
6	Do you like learning using PowerPoint Presentation media?	**88% Yes**	**12% No**
7	Are PowerPoint Presentations more interesting than the teacher's explanation on the whiteboard?	**80% Yes**	**20% No**
8	Does PowerPoint Presentation make the lessons easy to understand?	**92% Yes**	**8% No**

Figure 6. Survey Questionnaire Questions and Answer

Discussion

Quantitative Data

From the quantitative results, we can conclude that the motivation and classroom interaction are low during pretest and increase during posttest. The pretest and posttest score does not show significant increase although, in both tests, the average test scores are relatively high: 93.84 and 95.16 respectively. Further investigations are required through qualitative data by interviewing several students and the homeroom teacher. Despite the low significance, this research is in accordance with Nasution (2021) research that explained that the PowerPoint presentation was able to increase elementary school students' learning outcomes in mathematics.

However, one of the factors why the student's pretest and posttest scores show low significance is because of the parents or family involvement during online learning. During this pandemic, the students are learning through synchronous online learning. Their parents probably work from home and are able to supervise/guide their children intensively. It is in accordance with Cahyati et al., (2020) that said the role of parents during this pandemic is to act as the substitutes of teachers to

guide, facilitate, and motivate their children through online learning activities. Kurniati et al., (2020) stated that one of the parents' roles during this pandemic is to guide their children in doing school assignments. Thus, parents' or family involvement during this pandemic is quite important for students.

Qualitative Data

The qualitative data were analyzed using thematic analysis from the interview and survey questions. Through the interview with 8 students and 1 teacher, we can gain new insights related with the perspective of PowerPoint presentation usage, the motivation level, teachers' point of view, and the parent's involvement. There are several keywords that we can highlight from the result, such as;

Student's Perspective About The Usage of Powerpoint Presentations

The students think that the usage of interactive PowerPoint presentations as the learning media is very interesting and beneficial due to several reasons. The first one is because their homeroom teacher rarely uses PowerPoint as the learning media in mathematics. Due to that issue, the student's excitement is increasing when the teacher uses PowerPoint in learning. Lari (2014) also explained that the students will be engaged in learning if the teacher uses PowerPoint Presentation media. Second, the PowerPoint learning media provides clear visualization. The homeroom teacher usually writes the mathematical questions/problems on the whiteboard which consumes time and sometimes the handwriting is hard to read and causes misunderstanding. The students explained that by using PowerPoint that is projected on the screen, it helps them understand the materials better and able to solve the mathematical problems faster and efficiently. The interactive PowerPoint is required to use because children need contrast learning media to understand abstract concepts of mathematics. In accordance with that, the visualization of learning media is important to be considered, such as adding pictures in learning media. According to Hidayati (2020), there are significant learning outcomes between the students who learn with and without picture media.

7 out of 8 students mentioned that the decorations and design in interactive PowerPoints are not distracting for them. Students 1, 2, and 7 explained that It is able to engage them in learning, give healing effects, and reduce stress/ tension in learning. Moreover, students 2, 6, and 8 said that they are mature enough to distinguish which part is the decorations and which one is the learning materials. However, the teacher's effort in making PowerPoint presentations sometimes did not meet the students' expectations. The student expects to see the simple and interactive PowerPoint (Hadiyanti & Widya, 2018). In accordance with that, minority students explained that the interactive PowerPoint media which contains decorations is impractical. The explanation from the PowerPoint that uses animations sometimes failed to answer their questions. Thus, by adjusting and improving the usage of interactive PowerPoint as the learning media, hopefully the teachers will be able to increase students' learning and motivation effectively in online learning during a pandemic.

Student's Motivation

One of the solutions to increase students' motivation is by using interactive learning media. Thus, the learning media that is very suitable with the current pandemic situation is PowerPoint presentation. By delivering the materials using PowerPoint presentations, the students will put their attention to focus on the materials (Ozaslan & Maden, 2013), be motivated to learn new materials (Marpa, 2021), and also enhance students' academic performance (Misbahudin et al., 2018).

From the interview, both the homeroom teacher and the students stated that the interactive PowerPoint media are able to increase students' motivation. However, there are several considerations regarding the improvement that happened. Firstly, the students feel motivated and able to enjoy learning new materials by using PowerPoint presentation media. Lindenberg (2001) explains that students' enjoyment is one of the intrinsic motivation concepts. With enjoyment, the students will be engaged in the learning activity for an extended period of time. Secondly, the students explained that they have fully understood their job as a student, that is why they should keep motivated in learning and doing school assignments even though they face difficulty during the process. In short, the learning motivation levels are various in each student, but we can call that the majority of the students have successfully improved their learning motivation by using interactive PowerPoint media.

Teacher's perspective about the use of PowerPoint presentations

The homeroom teacher is fully aware of the usage of interactive PowerPoint media to increase students' motivation. The teacher realizes that interactive PowerPoint media are able to retain students' attention, engage their learning, and increase their motivation. Besides playing games/quizzes, the teacher tends to mix the interactive PowerPoints media in learning to refresh the students when they are bored with whiteboard learning media. However, the teacher rarely uses interactive PowerPoints during learning mathematics due to the lack of technology skills. The teacher only uses PowerPoint to teach materials that require pictures, diagrams, and charts. Septina et al., (2020) also mention the same thing, the teachers lack the ability to teach online learning due to poor technology utilization skills.

Through this interview, the teacher also stated her concern about distance learning. The first concern is about learning outcomes. She feels it is difficult to ascertain whether all children have understood the material. The other concern is the students' engagement, the students need to be proactive in learning to be seen by the teacher. At the same time, the teacher cannot guarantee the students' honesty in their school work. Even though the majority of the students are honest with their work, some of them are suspicious. Some students get good scores in assignments and tests, but they remain silent and fail to answer the teacher's questions during the synchronous Zoom meeting. This condition is in line with Fauzi and Khusuma (2020) conclusions' that stated one of the online learning problems that happen in teachers are the planning, implementation, and evaluation of learning.

Parents/siblings involvement

The parents or sibling involvement during this pandemic situation is crucial for students' success. Among 8 students interviewed, only 1 student enrolled in after-school private mathematics tutoring. Even so, their parents or siblings still help them a lot in their studies. Their roles are to guide the students if they have not understood the materials and check the student's work. From the interview with the students, all students stated that they never cheat on online tests, ask their parents to do the assignments, or copy their friends' work. Instead, they will try to do it by themself first, if they get stuck they usually ask parents or siblings, read the notes, and browse online answers.

At the end, the school asked for extra coordination with the parents since the beginning of online learning. They expect the parents to help and check their students' work before submitting it, including the pretest and posttest in this research. Several of the pretest and posttest results in this research have been checked/supervised by the parents before submitted and graded by the homeroom teacher, that is why the scores are excellent.

Finally, from the quantitative data, we can conclude that the pretest and posttest scores do not show significant results. The students' learning outcomes do not increase significantly due to the parents' involvement. However, from the qualitative data, the students stated that their motivations are increasing by using PowerPoint presentation learning media. The teacher also understands the importance of utilizing interactive learning media in learning. It means that there is no correlation between learning outcomes and students' motivations in mathematics during pandemic as stated in Nurwahid (2021) research.

CONCLUSION

In conclusion, the research has shown non-significant with a slight improvement in students' scores after the interactive PowerPoint presentation has been given. The students also stated that the interactive PowerPoint in mathematics has improved their motivation and engagement in learning. In addition, the homeroom teacher worries about the students' understanding during this synchronous distance learning. However, the interview results explained that the students are not learning alone during this pandemic. Their parents/siblings are around them to accompany and help them in learning.

At the end, this research was managed to find out the impact of PowerPoint presentation utilization in mathematics during pandemics. The quantitative data shows the low significance of pretest and posttest. Meanwhile, the qualitative data explains the probability that happened and perspective from students' and teachers' points of view. It shows that the covid-19 pandemic has affected the student and teachers teaching and learning activities that cause learning outcomes and motivation-related problems. This research has proved that by using interactive PowerPoint presentations as the learning media, have not fully successfull to improve the learning outcomes and motivational problems in one private elementary school in Bekasi, Indonesia.

In addition, the future research needs to investigate regarding the student's honesty in doing online tests. During online learning in this pandemic, students tend to learn together with their parents or other family members at their place. This thing is considered as a good activity to do where the parents can provide academic support for their children. However, the parents or family involvement in doing the test should be prohibited and it can be categorized as cheating action that so far there is no research discuss about it. The students must be able to do the test independently by themselves even though their parents and family are close around them.

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