

Elementary School Students Intention to Use Google Classroom Application: Extended TAM Model

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ARTICLE INFO

Keywords:

Google Classroom Apps;
Motivation;
TAM model;
Elementary School

Article history:

Received 2022-01-02

Revised 2022-06-23

Accepted 2022-12-02

ABSTRACT

Online learning during the pandemic has required teachers and students to utilize the existing technology. This research aims to determine students' perceptions of Google Classroom usage during the COVID-19 pandemic based on the TAM model by adding an external variable, e.g., motivation. Google Classroom can make online learning much easier to be used. Additionally, Google Classroom helps motivate pupils to learn online. However, it has not been any detailed research that investigated the use of Google Classroom in Elementary School based on the TAM Model. This quantitative study uses a survey design and technology acceptance model approach to measure students' interest in using the Google Classroom application. The data was collected through a questionnaire for grade IV students, as many as 90 students. The research findings were analyzed using Partial Least Square Structural Modeling (PLS-SEM) approach in the testing model, and the hypothesis testing reveals that generally, students like Google Classroom during COVID-19. Most elementary school students agree that Google Classroom is easy to use and effective in learning. Students were driven to use Google Classroom throughout the pandemic. Google Classroom helps them absorb lessons. Using Google Classroom can enhance students' motivation to study during the Google Classroom epidemic.

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1. INTRODUCTION

The COVID-19 pandemic began in 2020 and affected practically all nations (Bhavya Bhasin et al., 2021). One of the impacts of this pandemic is forcing on the education sector; in this case, the learning activities were conducted online or "distant learning" (Fauzi & Sastra Khusuma, 2020). This method

requires educators to advance in using the technology (Beardsley et al., 2021) quickly. Currently, the purpose of online learning is so that students can still obtain knowledge and information and improve student performance in learning (Gunawan et al. 2020). Nevertheless, in the beginning, technology was rarely used for education in Indonesia.

The pandemic's usage of online learning as the main solution influences students' learning motivation. However, Students' incentive to learn lowers when using online technology during a pandemic. This effect is because, previously, students have not performed an online learning process (Ardiyanto & Muharam, 2021). Additionally, Ineffective learning methods, lack of facilities, and less innovative learning material generate poor motivation. Students lack motivation because they have not learned to value education (Muslim et al., 2020). Motivated students will continue learning (Puspitarini & Hanif, 2019).

Related to online learning, the supporting facilities for online learning are numerous on various platforms such as Edmodo, Zoom, Google Meet, WhatsApp Group, and Google Classroom (Rianto et al., 2021). This study focuses on Google Classroom. Google Classroom is one of the most innovative online tools for learning and teaching (Albashtawi & Al Bataineh, 2020). Google Classroom can help to facilitate online learning in the current digital era (Ketut Sudarsana et al., 2019). Several studies on the software usage used in online learning report using Google Classroom as an efficient online learning medium (Rahmad et al., 2019). Google Classroom can make online learning more manageable because it is cheap and easy to use. In addition, Google Classroom is also used as an online learning medium that can increase students' learning motivation (Setiawan & Iasha, 2020). The existence of learning media must emphasize the model of technology acceptance, which will adjust students' needs. Teachers must explore students' Google Classroom learning motivation as the learning governor.

According to previous research on technology and information systems, the TAM model, proposed by Davis (1989), predicts and explains user behavior and intent. Previous studies on student views towards Google Classroom focused on the app's usability (Kassim, 2021). Other studies explore the factors that influence the use of the Google Classroom application, e.g., the influence of perceived usefulness and perceived ease of use on the Google Classroom application usefulness in learning motivation. Other studies tend to examine the influence of perceived usefulness on the individual using the Google Classroom application (Tuffahati, 2021). Hence, the objective of this research is to expand the previous studies, and This way is by adding the external variable, Motivation, to the TAM model theory and using the predictor variable from the TAM model, Perceived Usefulness, Perceived Ease Of Use, Attitude Toward Using and Interest Using Google Classroom Apps.

This study used TAM to test students' acceptability of Google classroom as a learning tool. TAM helps evaluate innovative technology. When students are introduced to new technologies, TAM reveals various factors influencing their acceptance (Pratiwi et al., 2021; Santi, 2022). Based on the technology acceptance model, this study examined the effect of motivating factors on primary students' interest in using Google Classroom. In doing so, it applies TAM theory as the support which will give individual confidence. i.e., perceived usefulness and ease of use are the main influences on technology acceptance behavior. This study will take Google Classroom users in Indonesia, especially elementary schools, as subjects. Because no study has examined the use of TAM on elementary school kids, this research intends to identify a Google Classroom-based technology acceptance model for elementary school students.

2. METHODS

The type of research used in this study is quantitative research with a survey design. This study uses primary data, i.e., data obtained directly from the source of information. Data were obtained using a questionnaire given to respondents included in the study sample (Ansong-gyimah, 2020). The questionnaire used consists of five parts, where each part represents a research variable. The first part deals with the perceived motivation variable, the second deals with the usability variable, the third

deals with the ease of use variable, and the fourth deals with attitudes towards usefulness. The fifth part deals with the variable interest in using the Google Classroom Application.

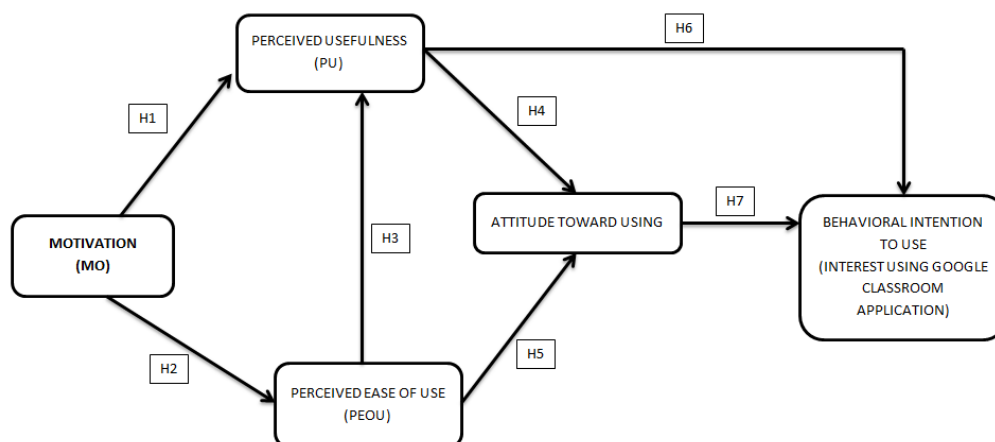


Figure 1. Research Model

a) Motivation (MO)

This External Motivation variable is used by adopting TAM. It is said that external Variables from TAM directly impact Perceived Usefulness (PU) and Perceived Ease of Use (PEOU) (Hamidah et al., 2021). Perceived functionality drives user behavior in information systems. Students learning motivation can be increased by using Google Classroom if they find it useful or functional (Tuffahati, 2021). Therefore, the following hypothesis is proposed:

H1: Does the Perceived motivation can positively influence Perceived Usefulness?

H2: The Perceived motivation can positively influence Perceived Ease Of Use?

b) Perceived Usefulness (PU)

Perceived usefulness is one's usage who believes that an information system is sound and will use it (Venkatesh et al., 2003). Therefore, this variable measures technology adoption based on user expectations that using technology will make it easier for them to complete the tasks that will be developed (Sánchez-Mena et al., 2017). Our conceptual framework can be conceptualized as the extent to which students believe using the Google Classroom App will improve their work, i.e., help them improve student learning. The expectation-value model confirms the relationship between perceived usefulness and attitudes. Thus, the following hypothesis is proposed:

H4: Does the perceived usefulness positively influences attitudes towards using the Google Classroom application?

H6: Does the Perceived usefulness positively influences Interest in Using Google Classroom Apps?

c) Perceived Ease of Use (PEOU)

If a person believes the system is easy to use, they will utilize it; if they do not, they will not. Therefore, the expected perception of ease can assist in learning and feel the benefits of information technology on the perceived usefulness they feel can be influenced by using Google Classroom (Aliyu & Dutse, 2019). With this perception of ease of use, it is expected that attitude is a person's affective response to using new technology, referring to the user's assessment of the desire to use the system or application (Sepyanda, 2018). Thus, the following hypothesis is proposed:

H3: Does the perceived ease of use positively influences perceived usefulness?

H5: Does the perceived ease of use positively influences attitudes towards using the Google Classroom application?

d) *Attitude Toward Using (ATU)*

ATU is a person's affective response to using new technology. Its usage refers to the user's assessment of the desire to use the system or application (Sepyanda, 2018). Consistent with the aim of this investigation. Students' Behavioral Intention is to continue utilizing Google Classroom. Ultimately, the effect of the variables Perceived Usefulness and Perceived Ease of Use on Attitudes towards Use (Ansong-gyimah, 2020). This section examines the link between Use Attitudes and Sustainable Use Intentions. Thus, the following hypothesis is proposed :

H7: Do the attitudes toward using the Google Classroom application perceived to be positively influenced by the interest in using the Google Classroom application?

In this study, the sampling technique used is non-probability, i.e., non-random sampling. The research uses G-power software with the type of Test Family, e.g., F-test and Statistical Test (multiple linear regression: fixed model, R2 departure from zero) with four predictors to determine population sample size. Based on the existing population of 490 students and the minimum total samples that have been calculated as many as 85, it can be determined that the total data samples are 90 students (3 Classes). (Kang, 2021).

Table 1. Sample Demographic

<i>Gender</i>	<i>Frequency</i>	<i>Percentage</i>
Male	53	58,9%
Female	37	41,1%
<i>Age</i>		
10 yo	73	81,1%
11 yo	16	17,8%
12 yo	1	1,1%
<i>Class</i>		
4 A	29	32,2%
4 B	30	33,4%
4 C	31	34,4%

The measurement instrument in this study is a questionnaire, and there are some variables in the questionnaire. The variables are represented by several questions with a point scale for each variable. Respondents' answers are measured on a Likert scale of 5 (five) points, e.g.: 1 (one) to 5 (five) (Mudiarti & Eka, 2021). Hence, the validity test was carried out to determine whether the applied measurement tool is valid for measuring the investigated variables.

The questionnaire instrument used for this research is an instrument that has been declared valid through a validity test with SmartPLS 3.0 software. In addition to being valid, the instrument must also be reliable. The instrument's internal reliability testing uses the Cronbach Alpha formula to describe convergent validity. Cronbach's Alpha value > 0.80 has a good scale, > 0.70 has an accepted scale, and > 0.60 is considered an exploratory scale. It includes a low estimate (Hair et al., 2018).

In this work, component analysis software SmartPLS 3.0 and a Structural Equation Modeling (SEM) technique were used to compute data, create theory, and investigate variable correlations. Hence, SEM is used to test the model and hypotheses. The component analysis examines latent variables using path modeling and partial least squares (PLS) (Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, 2017).

3. FINDINGS AND DISCUSSION

The data description of Google Classroom app acceptance comprises motivation, perceived utility, perceived ease of use, attitude toward using, and interest in using. Based on the data analysis, it is obtained the following result:

3.1. The Results of validity and reliability

Table 2 shows the study's test results' validity and reliability. Using Smart PLS 3.0, It summarises validity and reliability assessments. On the validity and reliability of the 24 questions given to respondents, Cronbach's Alpha values for all variables have a good level of reliability.

Table 2. Students' Acceptance of the use of Google Classroom

<i>Variable</i>	<i>Items</i>	<i>Loadings</i>	<i>Cronbach Alpha</i>	<i>Composite Reliability</i>	<i>AVE</i>
<i>Motivation</i>	MO1	0.923	0.892	0.933	0.822
	MO2	0.895			
	MO3	0.902			
<i>Perceived Usefulness</i>	PU1	0.836	0.898	0.922	0.663
	PU2	0.864			
	PU3	0.833			
	PU4	0.742			
	PU5	0.810			
	PU6	0.797			
<i>Perceived Ease Of Use</i>	PEOU1	0.753	0.910	0.930	0.690
	PEOU2	0.816			
	PEOU3	0.818			
	PEOU4	0.871			
	PEOU5	0.865			
	PEOU6	0.855			
<i>Attitude Toward Using</i>	ATU1	0.943	0.938	0.956	0.844
	ATU2	0.908			
	ATU3	0.897			
	ATU4	0.927			
<i>Interest in Using Google Classroom</i>	IUGC1	0.797	0.913	0.936	0.747
	IUGC2	0.758			
	IUGC3	0.894			
	IUGC4	0.935			
	IUGC5	0.922			

Table 2 illustrates 90 students' acceptance of Google Classroom as an online learning environment. The average score was derived by analyzing data. It can be seen if the AVE value shown for all indicators is greater than 0.50, meaning that all indicators are valid or meet the validity requirements (Astuti, N.P; Bakri, 2021).

Convergent validity

Convergent validity indicates that manifest variables correlate with measuring a latent component. Outer loading value and Average Variance Expected show convergent validity (AVE). From the data processing, the indicators can be stated valid if the confirmatory research has an outer loading value of ≥ 0.70 and ≥ 0.60 for explanatory research (Mahsun, 2021). Based on these data, the AVE value of each variable is Motivation (0,822), Perceived Usefulness (0,663), Perceived Ease of Use (0,690), Attitude Toward Using (0,844), Interest Using Google Classroom (0,747). Based on the data, it is found that the score of every loading and AVE above was 0.50. hence, the item variable in this study can be declared feasible to meet the convergent validity test.

Discriminant validity

Discriminant Validity aims to determine whether variable correlation on the variable itself has greater value than variable correlation on other variables in research. Discriminant Validity can be determined from the discriminant validity table and cross-loading value (Mahsun, 2021). It is known that the loading value of each variable is Motivation (0.923); (0.895); (0.902), Perceived Usefulness (0.836); (0.864); (0.833); (0.742); (0.810); (0.797), Perceived Ease of Use (0.753); (0.816); (0.818); (0.871); (0.865); (0.855), Attitude Toward Using (0.943); (0.908); (0.897); (0.927), and Interest Using Google Classroom (0.797); (0.758); (0.894); (0.935); (0.922) It is found that the loading value of every variable is this loading value is greater than other construct values. So, every variable in this study can be declared to have fulfilled discriminant validity.

Cronbach's Alpha dan Composite Reliability

Cronbach's Alpha has a standard value of ≥ 0.70 . if Cronbach's Alpha score is < 0.70 , it can be seen from composite reliability. Every variable item is said to be reliable if the composite reliability value is ≥ 0.70 (Mahsun, 2021). It is found that the Composite Reliability value of every variable is motivation (0.933), Perceived Usefulness (0.922), Perceived Ease Of Use (0.930), Attitude Toward Using (0.956), and Interest in Using Google Classroom (0.936). The result of data processing shows that the composite reliability value is ≥ 0.70 . hence every item in this research can be declared reliable.

3.2. The Results of the Hypothesis

Path analysis hypothesis testing, using path coefficients, is carried out to test the relationship hypothesis (Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, 2017). The path analysis results are presented in Table 3. As shown in Table 3, the path coefficient results from the structural model are significant. All hypotheses tested are accepted or have an effect.

Table 3. Hypothesis Testing Result

Hypothesis	Path	Std.Betta	Std.Error	T-Value	P-Value	Bias	Confidence Interval		Result
							5.0%	95.0%	
H1	Motivation - Perceived usefulness	0.274	0.100	2.730	0.003	-0.012	0.104	0.412	Supported
H2	Motivation - Perceived Ease Of Use	0.789	0.048	16.290	0.000	0.005	0.683	0.851	Supported
H3	Perceived Ease Of Use - Perceived Usefulness	0.673	0.087	7.714	0.000	0.011	0.548	0.825	Supported
H4	Perceived Usefulness - Attitude Toward Using	0.324	0.134	2.423	0.008	-0.006	0.129	0.559	Supported
H5	Perceived Ease Of Use - Attitude Toward Using	0.574	0.141	4.063	0.000	0.006	0.337	0.795	Supported
H6	Perceived usefulness - Interest Using Google Classroom.	0.337	0.090	3.747	0.000	-0.000	0.197	0.497	Supported

H7	Attitude Toward Using - Interest Using Google Classroom	0.604	0.088	6.840	0.000	0.001	0.442	0.736	Supported
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The hypothesis testing (H1) results. The seven hypotheses proposed in the current study were supported. Learning motivation which is found to be positive and significant is directly influenced by the usage Perception of Usefulness ($\beta = 0,274$; $t = 2730$; $p < 0,003$), and (H2) Learning motivation, which is found to be positive and significant, is directly influenced by Perception of Ease of Use ($\beta = 0,789$; $t = 16, 290$; $p < 0,000$) it means that this motivation indicator provides many uses and conveniences. Furthermore, the results of hypothesis testing (H3) Perception of Ease of Use which was found to be positive and significantly directly influenced by the usage Perception of Usefulness ($\beta = 0,673$; $t = 7,714$; $p < 0,000$), and (H4) The usage perceptions of usefulness were positive and significantly directly influenced by Attitudes towards Use ($\beta = 0,324$; $t = 2,243$; $p < 0,008$). Furthermore, (H5) Perceptions of Ease of Use found were positive and significant directly influenced by Attitudes towards Use ($\beta = 0574$; $t = 4, 063$; $p < 0,000$), meaning that the Perceived Ease Of Use Indicator influences the perceived usefulness and attitude toward using, and (H6) the usage Perceptions of Usefulness were found to be positive and significant and were directly influenced by the interest in using the Google Classroom Application ($\beta = 0,337$; $t = 3,747$; $p < 0,000$), and Attitudes towards using were found to be positive and significantly directly influenced by the interest in using the Google Classroom Application ($\beta = 0,604$; $t = 6, 840$; $p < 0,000$), meaning that the final result influences interest in using the next Google Classroom application.

Motivation Has a Positive and Significant Effect on Perceived Usefulness of Google Classroom Apps

Based on the data processing result, it can be found that the added external variable, e.g., Motivation, which the student has, will affect the perceived usefulness of using Google Classroom Apps. This result is indicated by the correlation of students' motivation with their perceived usefulness, which leads to a positive direction correlation. It means that the higher student's motivation, the higher their perceived usefulness in using Google Classroom Apps.

Motivation Has a Positive and Significant Effect on Perceived Ease Of Use Google Classroom Apps

Based on the data processing result, it can be found that the added external variable, e.g., Motivation, which the student has, will affect the perceived ease of use in using Google Classroom Apps. This result is indicated by the correlation of students' motivation with their perceived ease of use, which leads to a positive direction correlation. It means that the higher the student's motivation, the higher their perceived ease of using Google Classroom Apps.

Perceived Ease of Use Has a Positive and Significant Effect on Perceived Usefulness of Google Classroom Apps

Based on the data processing result, it can be found that the student's perceived ease of use will affect the usefulness of using Google Classroom Apps. This result is indicated by the correlation of students' perceived ease of use with their perceived usefulness, which leads to a positive direction correlation. It means that the higher student perceived ease of use, the higher their perceived usefulness in using Google Classroom Apps.

Perceived Usefulness Has a Positive and Significant Effect on Attitude Toward Using Google Classroom Apps

Based on the data processing result, it can be found that the student's perceived usefulness will affect the attitude toward using Google Classroom Apps. This result is indicated by the correlation of students' perceived usefulness with their attitude toward using, which leads to a positive direction correlation. It means that the higher student's perceived usefulness, the higher their attitude toward using Google Classroom Apps.

Perceived Ease of Use Has a Positive and Significant Effect on Attitude Toward Using Google Classroom Apps

Based on the data processing result, it can be found that the perceived ease of use the student has will affect the attitude toward using Google Classroom Apps. This result is indicated by the correlation of students' perceived ease of use with their attitude toward using, which leads to a positive direction correlation. It means that the higher student's perceived ease of use, the higher their attitude toward using Google Classroom Apps.

Perceived Usefulness Has a Positive and Significant Effect on Interest Using Google Classroom apps.

Based on the data processing result, it can be found that the student's perceived usefulness will affect the interest in using Google Classroom Apps. This result is indicated by the correlation of students' perceived usefulness with their interest in using, which leads to a positive direction correlation. It means that the higher student's perceived usefulness, the higher their interest in using Google Classroom Apps.

Attitude Toward Using Positive and Significant Influence on Interest Using Google Classroom Apps

Based on the data processing result, it can be found that attitude toward using and the student will affect their interest in using Google Classroom Apps. This result is indicated by the correlation of students' attitude toward using with their interest in using, which leads to a positive direction correlation. It means that the higher student's attitude toward using, the higher their interest in using Google Classroom Apps.

This study explores the effect of perceived external variables, usefulness, ease of use, and elementary school context on students' intention to use Google Classroom. All projected connections were substantial, and The Technology Accepted Model theory predicts primary kids' Google Classroom learning intentions. (Rostyawati et al., 2021; Zulherman, Zain, et al., 2021). Students rated Google Classroom as valuable and beneficial. Students like Google Classroom if it is straightforward to use.

This finding matches prior quantitative research (Putra, 2020; Rahayu et al., 2021) assessing Google Classroom's ease of use. "Google Classroom allows me to submit assignments fast" received the greatest rating (Mean = 4.55). "I feel comfortable interacting with my teacher on Google Classroom" received the lowest rating. Average: 3.83 Students at Mataram Tourism College find Google Classroom easy to use, informative, and enjoyable. Nevertheless, this research only tests the student's perception of usefulness. Hence, this research has the novelty of new information with perceived Motivation external variable on the variable indicator from TAM model in the usage of Elementary School levels.

SEM Hypothesis Model

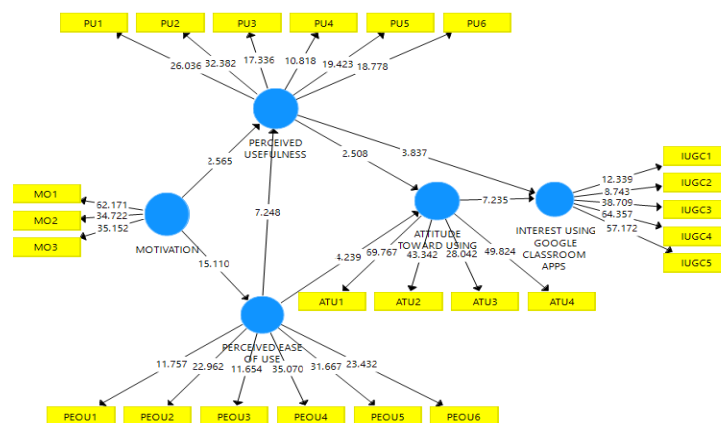


Figure 2. SEM Hypothesis Model

This Structural Equation Modeling (SEM) calculation analyzes and evaluates the model theory formulated to obtain specific results from the influence and relationship between variables (Vululleh, 2018; Zulherman, Nuryana, et al., 2021). The structural model was assessed by bootstrapping 500 repeat samples. This structural model also reveals that the additional external variable is the perceived motivation that positively affects the interest in using the Google Classroom application. Figure 2 shows the research model.

4. CONCLUSION

This research aims to determine the motivation factor for the interest in using Google Classroom in Elementary School students implementing Distance Learning during the pandemic. The model used to determine the factor influencing the interest of use is TAM. The method used to analyze the correlation among constructs is the PLS method. Based on the analysis and discussion of the research result. The conclusion is:

1. That there are positive influences of the perceived motivation on the perceived usefulness of the Google Classroom application.
2. That there are positive influences of the perceived motivation on the perceived ease of use in the Google Classroom application.
3. That there are positive influences of the perceived ease of use on the perceived usefulness of the Google Classroom application.
4. That there are positive influences of the perceived usefulness on the attitude toward using the Google Classroom application.
5. That there are positive influences of the perceived ease of use on the attitude toward using the Google Classroom application.
6. That there are positive influences of the perceived usefulness on the interest using the Google Classroom application.
7. That there are positive influences of the attitude toward using on the interest using Google Classroom application.

This research found that most students regarded motivation as an external element when utilizing the Technology Acceptance Model to predict interest in Google Classroom. This data shows that students liked using Google Classroom during the pandemic. Positive student survey responses indicate this perception. This research result can be used as advanced information and as a line of thought for developing other research on the motivational influence factor on elementary school student's interest in using Google Classroom based on the technology acceptance model. Adding other variables to analyze external factors might also be influential. The teacher must consider motivation, perceived utility, perceived simplicity of use, and attitude toward utilizing Google Classroom to promote student enthusiasm. It can improve student learning and outcomes.

Acknowledgments

This study was supported by the Universitas Muhammadiyah Prof. DR. HAMKA. We sincerely thank the faculties, PGSD Department, and students SDN DEPOK 6 who participated in this research.

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