

Factors Influencing Madrasah E-Learning Satisfaction on Mathematics Teachers of Madrasah Tsanawiyah in Jakarta

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ABSTRACT

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This study analyzes the effect of attitude, quality, and flexibility on satisfaction and the implications for the desire to continue using madrasah e-learning for mathematics teachers in seventh grade for algebra material. The research includes non-experimental quantitative research. The population of this research is a mathematics teacher at the seventh-grade Madrasah Tsanawiyah in DKI Jakarta Province who teaches algebra material using madrasah e-learning. Sampling by convenience sampling and obtaining a sample of 225 teachers. The method of data collection is using a questionnaire. A Likert scale 1-5 questionnaire to collect data, data analysis method using PLS-SEM. Interviews with nine teachers were conducted to explore the causes of teachers agreeing and disagreeing with using e-learning madrasah in algebra learning. The results showed that teacher attitudes, e-learning quality, and e-learning flexibility significantly and positively affected e-learning satisfaction. E-learning satisfaction significantly and positively affects the desire to continue using e-learning. The interviews showed that teachers agreed because e-learning madrasah could help and facilitate teachers and students, and teachers did not agree because they encountered some difficulties in learning algebra.



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A. INTRODUCTION

Today, algebra education is under scrutiny all over the world. Complaints from the higher education sector focused on a lack of procedural competence. Universities are often disappointed with their students' scores on such tests. Middle school teachers, who have been criticized for being too lax, have complained about the decline in the numeracy skills students acquire in elementary school. On the other hand, some see the primary goal of algebra education as developing strategic problem-solving and reasoning skills, a sense of symbolism, and flexibility rather than procedural fluency. From this perspective, the future of society and the workforce must focus more on flexible analytical thinking skills than on procedural skills. As a result, algebra education must change its goals, focus on new epistemologies, and lead to new ways of understanding (Drijvers et al., 2011).

Students are seventh-grade Junior High School are faced with a new mathematical material, namely algebra. Students experience various obstacles in learning algebra. The barriers experienced by students become a challenge for teachers in teaching algebra material. Students begin to learn abstractly in algebra, so the teacher has difficulty explaining algebraic material. Learning the language of mathematical symbols, which is utterly foreign to their prior

knowledge, is necessary for studying algebra. Algebra does use not only numeric symbols but also letters or combinations of numbers and letters. The teacher uses and explains algebraic symbols during the lesson in various ways. This condition often causes students to find it challenging to describe algebraic symbols with the meaning of the symbols in question. Students do not understand the substance contained in the symbol. On the other hand, they may understand the meaning, but limited understanding makes students misinterpret the symbols (Kusaeri, 2012).

Research by Afifaturrohmaniyyah & Malasari (2021), teachers find it challenging to explain how to apply algebraic arithmetic operations due to the limits of learning support systems. Harleni & Espresia (2021) shows that the indications of technological limitations demonstrate that students cannot adapt to technical limitations, which prevents the learning process from progressing. Teachers find it difficult to learn algebra because there are no applications that support learning.

E-learning is an online learning platform with full features that allows learning activities such as in real classes or face-to-face classes (Rumiyati, 2021). The effectiveness of the application of online learning with madrasah e-learning in mathematics subjects shows that learning with madrasah e-learning is very effective. Although learning is done offline, madrasah e-learning can be used because there are many features in madrasah e-learning that support the completeness of learning administration (Sutini et al., 2020). Madrasah e-learning is a solution for teachers who have difficulty learning algebraic material. In the e-learning madrasah, there is very interactive content for learning mathematics, especially algebraic material. Teachers can make lesson plans, provide materials, give assignments, give grades, and conduct evaluations.

Madrasah e-learning is used by Madrasah Aliyah, Madrasah Tsanawiyah, and Madrasah Ibtidaiyah. There are six access roles in madrasah e-learning, (1) supervisors (headmasters and staff); (2) subject teachers; (3) students; (4) classroom teachers; (5) counselling teachers; and (6) madrasah operators (Kemenag, 2020). Madrasah e-learning is an online platform with exclusive features that allow algebra learning activities in face-to-face classes.

In an example of learning algebraic material using madrasah e-learning, the teacher uploads material in the form of a video about a system of linear equations and 2 variables, then the teacher also uploads questions. Then students are given 3 days to do assignments and upload them to the madrasah e-learning. E-learning madrasah provide flexibility in the time and place of uploading assignments for students. Teachers can monitor student assignments, when students have uploaded, the teacher can provide an assessment. Students can see the results of their assignments through the madrasah e-learning. To strengthen learning about the 2-variable linear equation system, in e-learning madrasah there is a meet video conference menu that allows teachers to conduct virtual meetings with all students who are members of the class for free and without time restrictions. Through this menu, the teacher can conduct questions and answers with students regarding the material for a system of linear equations with 2 variables. Meet video conference provides convenience in learning that cannot be done face-to-face. So learning with e-learning madrasah trains students' independence. Students are actively trained to do assignments and look for supporting materials. Students are easy to learn, easy to repeat learning material if they do not understand by opening the material that is already

available, can ask questions indirectly via chat, and can ask questions directly through meet video conference.

Attitude is a reaction or response caused by an individual to an object, which gives rise to a tendency for individual behaviour towards the object in a certain way. Attitudes consist of 3 components: (1) cognitive, namely components related to aspects of knowledge, views, and beliefs, namely various matters relating to perceptions of the attitude object; (2) affective, namely components related to feelings of pleasure or displeasure with the attitude object, as well as components related to the direction of attitudes, both positive and negative; and (3) behaviour, specifically those connected to the propensity to act on the subject of an attitude, in particular, the degree to which a person's propensity to act or behave in the direction of the subject of an attitude (Azwar, 2021). The components of these attitudes work in harmony and consistency; when faced with an object, the three components will produce a uniform attitude (Azwar, 2021). Teachers who are not confident in using e-learning in algebra learning will undoubtedly experience difficulties in the learning process. Teachers need to have confidence, feel happy, and use madrasah e-learning to learn algebraic material.

Quality measures how well the level of service provided meets or exceeds user expectations (Tjiptono & Chandra, 2019). There are three dimensions in measuring the quality of e-learning: administrative and technical support, teacher and student characteristics, and content and design (Puriwat & Tripopsakul, 2021). Content in the form of the contents of a system in the form of system functions and information generated itself (Prasetya & Harjanto, 2020). Design is a set of decisions establishing teaching goals and plans focusing on e-learning design and considering learning management systems and performance (Rienties & Toetenel, 2016). Administrative support mainly refers to the help desk, advisors, administrative staff, and agency management (Pham et al., 2019). When using learning management systems, technical support is vital. Lack of technical support or knowledge can cause problems and frustration for users. Problem-solving skills are essential for using ICT as a reliable tool (Sanchez & Hueros, 2010). Educator characteristics, such as attitudes toward technology, teaching styles, and skills management, are measures that correlate with learning effectiveness (Webster & Hackley, 1997). According to Piccoli et al. (2001), learners have the following characteristics: (1) motivation to learn; (2) computer self-efficacy; and (3) previous experience: previous experience in an e-learning environment will lead to various responsive attitudes, intentions, and behaviours in students which are considered as prerequisites for success. For example, suppose the quality of madrasah e-learning is not good. In that case, the teacher will have difficulty learning algebraic material, so the quality of madrasah e-learning is very influential in learning algebraic material.

Flexibility is necessary for the use of e-learning platforms and the educational process to be effective (Arbaugh & Duray, 2002). According to the established timetable, procedure, and means, students can interact with teachers and friends (Suryani & Sugianingrat, 2021). E-learning madrasah provides a distance learning solution. E-learning madrasah allows teachers to offer algebra learning materials anytime and from anywhere.

Satisfying can be described as attempting to accomplish or perform something well (Munawar & Fuadaturrahmah, 2021). Consumers' pleasant emotive response to trading relationships is called satisfaction (Kashyap & Sivadas, 2012). User satisfaction measures

whether a user finds the system helpful and wishes to use it again (Xinli, 2015). Satisfaction is the difference in feeling between previous and perceived expectations of achievement—satisfaction analysis after learning activities (Nagy, 2018). Satisfaction is an important thing to do in services. The service will continue to be evaluated for development and progress to ensure user satisfaction by knowing satisfaction.

An e-learning system's success may consistently impact user behaviour. When students are happy with the online learning system, they continue to use it (Suryani & Sugianingrat, 2021). Teachers with a positive attitude in algebra learning will feel happy teaching, always learning and developing themselves to achieve learning goals. So that teachers have a desire to continue the use of e-learning.

Attitudes significantly and positively affected e-learning satisfaction (Cheok & Wong, 2015; Nguyen, 2020; Suryani & Sugianingrat, 2021). E-learning quality significantly and positively affected e-learning satisfaction (Chen, 2021; Cheok & Wong, 2015; Prasetya & Harjanto, 2020; Kumar et al., 2021; Martinez-Arguelles & Batalla-Busquet, 2016; Nguyen, 2020; Puriwat & Tripopsakul, 2021; Salam & Farooq, 2020; Seta et al., 2020; Suryani & Sugianingrat, 2021). E-learning flexibility significantly and positively affected e-learning satisfaction (Cheok & Wong, 2015; Cheok et al., 2017; Nguyen, 2020; Prasetya & Harjanto, 2020). E-learning satisfaction has a significant and positive effect on the desire to continue using e-learning (Martinez-Arguelles & Batalla-Busquet, 2016; Puriwat & Tripopsakul, 2021; Salam & Farooq, 2020; Seta et al., 2020; Suryani & Sugianingrat, 2021).

According to the preceding description, it is a novelty in this study regarding the influence of teacher attitudes, e-learning quality, and e-learning flexibility on satisfaction and its implications for the desire to continue using madrasah e-learning in algebraic learning. The research population is a Mathematics teacher at the seventh-grade Madrasah Tsanawiyah in DKI Jakarta Province who teaches algebra. This study's objective was to determine the effect of teacher attitudes, e-learning quality, and e-learning flexibility on e-learning satisfaction and its implications for the desire to continue using madrasah e-learning for seventh-grade mathematics teachers on algebraic material.

B. METHODS

Non-experimental research, this study analysis is based on a survey. The research sample obtained was 225 teachers. Characteristic is a Mathematics teacher at the seventh-grade Madrasah Tsanawiyah in DKI Jakarta Province with the provision of teaching algebra material using madrasah e-learning. This study's sampling strategy was convenience sampling, where information is gathered through surveys using an internet form using a Google form with a Likert scale of 1–5. Teacher's attitude indicator: confidence, feelings of pleasure, and willingness. Quality of e-learning indicator, (1) content and design dimensions: preparation of materials, the material is easy to understand, materials improve problem-solving, design learning according to the curriculum, achievement of learning outcomes, and assignments can be provided; (2) dimensions of administrative and technical support: material upload portal, introduction, explanation of the use of the operator, instructions for use, technical support, and operator assistance; and (3) dimensions of teacher and student characteristics: availability of time, interactive teaching, summative assessment, quickly adopted, learning outcomes, and

increase motivation. E-learning flexibility indicator: flexibility of time, the flexibility of place, and material can be customized. E-learning satisfaction indicator: meeting teaching needs, satisfied with the features, more interesting than face to face, and satisfied with the material. Desire to continue using e-learning indicator: want to use sustainability, will develop the material, and willing to help develop the material. The data analysis method used the PLS-SEM analysis method with Smart-PLS. Interviews with nine teachers were conducted to explore the causes of teachers agreeing and disagreeing with using e-learning madrasah in algebra learning.

Hypothesis 1: teacher attitudes significantly and positively affect e-learning satisfaction. Hypothesis 2: e-learning quality significantly and positively affects e-learning satisfaction. Hypothesis 3: e-learning flexibility significantly and positively affects e-learning satisfaction. Hypothesis 4: e-learning satisfaction significantly and positively affects the desire to continue using e-learning. The chart of this research as shown in Figure 1.

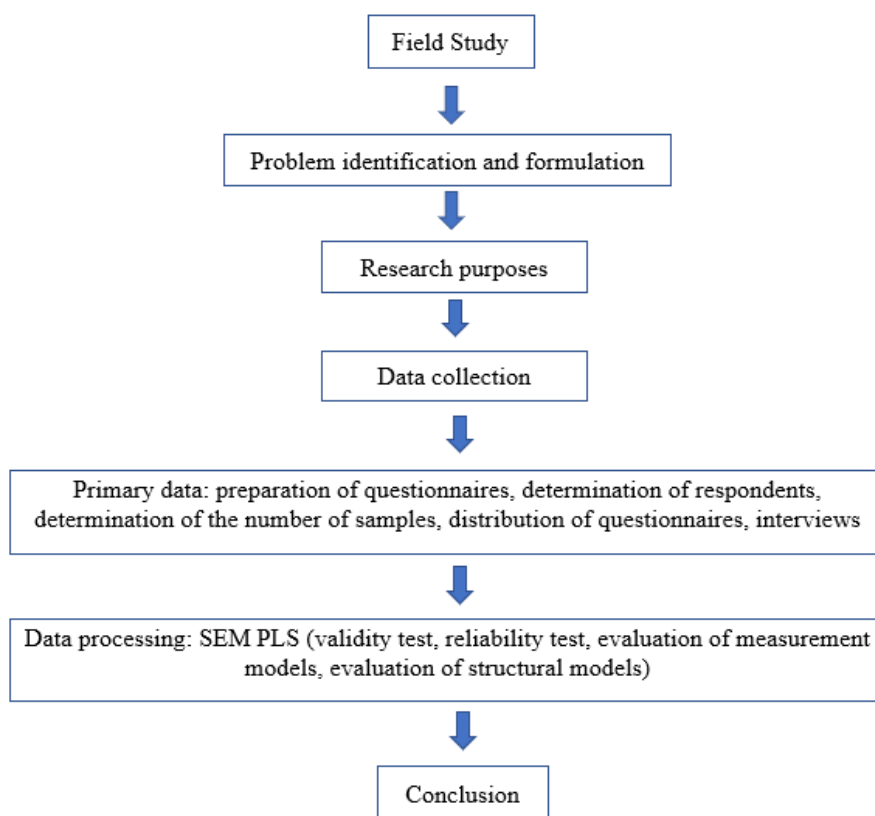


Figure 1. The Chart on Research Model

C. RESULT AND DISCUSSION

1. Result

Construct path diagrams to determine the relationship between latent variables and their indicators. The path diagram of this research as shown in Figure 2.

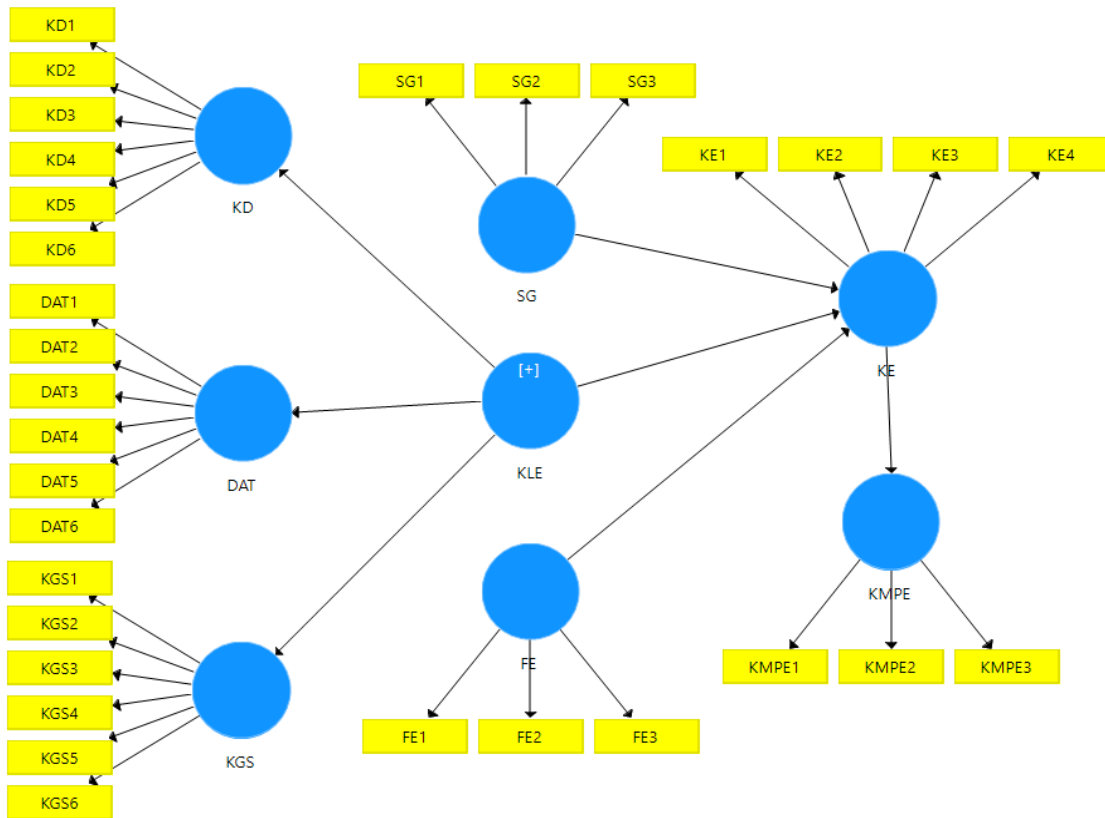


Figure 2. Path Diagram on Research Model

The study consisted of 3 exogenous variables (teachers' attitudes (SG), quality of e-learning (KLE), and e-learning flexibility (FE)) and two endogenous variables (e-learning satisfaction (KE) and the desire to continue using e-learning (KMPE)). The quality of e-learning consists of three dimensions: content and design (KD), administrative and technical support (DAT), and teacher and student characteristics (KGS). In this study, the measurement of the dimensions: teacher attitudes uses three indicators, e-learning quality uses 18 indicators, e-learning flexibility uses three indicators, e-learning satisfaction uses four indicators, and the desire to continue using e-learning uses three indicators.

a. Analysis of the Measurement Model (Outer Model)

Based on the model in Figure 2, outer model analysis of convergent validity and reliability, as shown in Table 1 and Table 2.

Table 1. Convergent Validity and Reliability First-Order Constructs

Construct	Indicators	Loading Factor	AVE	Composite Reliability	Cronbach's Alpha
SG	SG1	0.921	0.856	0.947	0.916
	SG2	0.935			
	SG3	0.918			
KD	KD1	0.864	0.759	0.950	0.936
	KD2	0.899			
	KD3	0.842			
	KD4	0.853			
	KD5	0.891			
	KD6	0.875			

Construct	Indicators	Loading Factor	AVE	Composite Reliability	Cronbach's Alpha
DAT	DAT1	0.787	0.717	0.938	0.921
	DAT2	0.818			
	DAT3	0.870			
	DAT4	0.850			
	DAT5	0.888			
	DAT6	0.864			
KGS	KGS1	0.802	0.753	0.948	0.934
	KGS2	0.889			
	KGS3	0.844			
	KGS4	0.862			
	KGS5	0.914			
	KGS6	0.892			
FE	FE1	0.935	0.861	0.949	0.919
	FE2	0.925			
	FE3	0.923			
KE	KE1	0.906	0.770	0.930	0.898
	KE2	0.924			
	KE3	0.742			
	KE4	0.924			
KMPE	KMPE1	0.908	0.808	0.927	0.881
	KMPE2	0.920			
	KMPE3	0.868			

Table 2. Convergent Validity and Reliability Second-Order Constructs

Construct	Dimension	Loading Factor	AVE	Composite Reliability	Cronbach's Alpha
KLE	KD	0.925	0.639	0.969	0.966
	DAT	0.895			
	KGS	0.962			

A convergent validity test determines the correlation between each indicator and its latent variable in the loading factor and Average Variance Extracted (AVE) values. The stipulation is that if the loading factor value is greater than 0.7 and the Average Variance Extracted (AVE) is greater than 0.5, indicating valid. Table 1 and Table 2 show that the loading factor value is greater than 0.7, and the Average Variance Extracted (AVE) is greater than 0.5. Therefore, all indicators are declared valid to measure the variables, as shown in Table 3.

Table 3. Discriminant Validity

Construct	Indicators	SG	KD	DAT	KGS	FE	KE	KMPE
SG	SG1	0.921	0.789	0.680	0.749	0.647	0.720	0.584
	SG2	0.935	0.809	0.663	0.752	0.650	0.738	0.630
	SG3	0.918	0.800	0.616	0.755	0.681	0.751	0.689
KD	KD1	0.765	0.864	0.629	0.694	0.651	0.670	0.606
	KD2	0.774	0.899	0.560	0.736	0.634	0.714	0.649
	KD3	0.720	0.842	0.501	0.732	0.598	0.693	0.644
	KD4	0.750	0.853	0.656	0.740	0.652	0.672	0.610
	KD5	0.766	0.891	0.629	0.806	0.680	0.722	0.663

Constuct	Indicators	SG	KD	DAT	KGS	FE	KE	KMPE
	KD6	0.741	0.875	0.629	0.767	0.700	0.695	0.638
DAT	DAT1	0.682	0.694	0.787	0.733	0.686	0.682	0.583
	DAT2	0.574	0.556	0.818	0.635	0.629	0.554	0.518
	DAT3	0.551	0.524	0.870	0.655	0.646	0.542	0.495
	DAT4	0.617	0.636	0.850	0.730	0.749	0.619	0.573
	DAT5	0.604	0.638	0.888	0.731	0.710	0.646	0.583
	DAT6	0.541	0.502	0.864	0.613	0.615	0.511	0.463
KGS	KGS1	0.654	0.667	0.754	0.802	0.731	0.731	0.592
	KGS2	0.724	0.784	0.698	0.889	0.758	0.758	0.711
	KGS3	0.658	0.687	0.661	0.844	0.723	0.723	0.624
	KGS4	0.675	0.720	0.752	0.862	0.764	0.764	0.677
	KGS5	0.779	0.801	0.688	0.914	0.781	0.781	0.689
	KGS6	0.736	0.797	0.670	0.892	0.739	0.739	0.692
FE	FE1	0.637	0.692	0.728	0.803	0.935	0.726	0.652
	FE2	0.651	0.676	0.735	0.776	0.925	0.715	0.604
	FE3	0.695	0.718	0.757	0.825	0.923	0.754	0.678
KE	KE1	0.760	0.766	0.726	0.854	0.818	0.906	0.684
	KE2	0.704	0.731	0.641	0.818	0.749	0.924	0.685
	KE3	0.519	0.497	0.403	0.604	0.414	0.742	0.619
	KE4	0.781	0.769	0.660	0.834	0.733	0.924	0.747
KMPE	KMPE1	0.620	0.672	0.546	0.677	0.589	0.710	0.908
	KMPE2	0.636	0.680	0.630	0.748	0.678	0.746	0.920
	KMPE3	0.594	0.612	0.536	0.637	0.607	0.643	0.868

A discriminant validity test determines whether there is a correlation between each indicator and other latent variables. For example, the cross-loading value of each indicator; if the cross-loading value with its latent variable is greater than the value of cross-loading with other latent variables, then the indicator can measure the latent variable well. For example, if the cross-loading value is greater than 0.7 for each indicator, then the indicator can measure the latent variables well. Based on Table 3, the cross-loading value of an indicator with its latent variable is greater than the value of cross-loading with other latent variables with a cross-loading value greater than 0.7. All indicators are declared valid to measure the variable.

The reliability test describes the consistency, accuracy, and accuracy of indicators in measuring latent variables. The reliability of the indicators in the composite reliability and Cronbach's alpha values; if the composite reliability and Cronbach's alpha values are greater than 0.7, it can say that the indicators are consistent in measuring the latent variables. Based on the results from Table 1 and Table 2, the value of composite reliability and Cronbach's alpha is greater than 0.7; all variables are reliable or consistent in measuring.

b. Structural Model Analysis (Inner Model)

The value of R-square (R^2) is the coefficient of determination on the endogenous construct and the coefficient of the path parameter. R-Square value of 0.75 illustrates that the model is robust; 0.50 demonstrates that the model is moderate, and 0.25 shows that the model is weak, as shown in Table 4.

Table 4. R-Square

Endogenous Latent Variables	R-Square
Satisfaction of e-learning	0.768
Desire to continue using e-learning	0.608

Based on the results from Table 4, indicating the R-square value of the e-learning satisfaction variable is 0.768 or 76.8%. So, the e-learning satisfaction model is robust. However, the value of R-square for the variable of desire to continue using e-learning is 0.608 or 60.8%; this indicates that the model of the desire to continue using e-learning is moderate. The test statistic used is T-statistical using a significance level of 5%, so the T-table value is 1.96 is rejected if T-statistical > T-table or if p. value ≤ 5%. The findings of the hypothesis test as shown in Table 5.

Table 5. Significance

Hypothesis	Parameter Coefficient	T-statistic	P-Value	Result
SG → KE	0.226	2.282	0.011	H_0 rejected
KLE → KE	0.511	4.059	0.000	H_0 rejected
FE → KE	0.185	2.119	0.017	H_0 rejected
KE → KMPE	0.780	22.522	0.000	H_0 rejected

- 1) The result of the T-statistical calculation is $2.282 > 1.96$, and p-value is $0.011 < 0.05$, so it is rejected. The teacher's attitude has a significant and positive effect on e-learning satisfaction.
- 2) The result of T-statistical calculation is $4.059 > 1.96$ and p-value $0.000 < 0.05$, so it is rejected. The quality of e-learning has a significant and positive effect on e-learning satisfaction.
- 3) The result of T-statistical calculation is $2.119 > 1.96$ and p-value $0.017 < 0.05$, so it is rejected. It is that e-learning flexibility has a significant and positive on e-learning satisfaction.
- 4) The result of T-statistical calculation is $22.522 > 1.96$ and p-value $0.000 < 0.05$ then is rejected. E-learning satisfaction significantly and positively affects the desire to continue using e-learning.

2. Discussion

In the first hypothesis, the effect of teacher attitudes on e-learning satisfaction has a path coefficient of 0.226 (positive). An increase will follow the teacher attitude variable's value in the e-learning satisfaction deal. The influence of the teacher's attitude variable on e-learning satisfaction has a p-value of $0.011 \leq 0.05$, and H_0 rejected it. Conclude that teacher attitudes significantly and positively affect madrasah e-learning satisfaction in learning algebra material for seventh-grade in DKI Jakarta Province. That means if teacher attitudes increase, e-learning satisfaction will also increase, and if teacher attitudes decrease, e-learning satisfaction will also decrease. Research is connected to the findings of this study (Cheok & Wong, 2015; Nguyen, 2020; Suryani & Sugianingrat, 2021), in their study, which states that the attitude of teachers

has a significant and positive effect on e-learning satisfaction. Teachers' attitudes benefit students' happiness with studying mathematical content through e-learning madrasah when they feel confident, joyful, and willing to use it. Therefore, the teacher's attitude is one element influencing how well seventh-grade students in the DKI Jakarta Province respond to madrasah e-learning algebra content.

The results of interviews also support this; if the teacher agrees to use madrasah e-learning, then the teacher feels satisfied in algebra learning; in other words, the teacher does not experience difficulties in algebra learning, and if the teacher does not agree to use madrasah e-learning then the teacher feels dissatisfied in algebra learning, in other words, the teacher has difficulty in algebra learning. The slow adoption of madrasah e-learning technology is a negative attitude that teachers are not satisfied with algebra learning. Difficulties in learning algebra using e-learning madrasah, including teachers find it challenging to explain algebraic material with e-learning madrasah, especially for material at the beginning of learning, namely introducing algebraic forms; students have difficulty understanding algebraic concepts with madrasah e-learning, for example, difficulty identifying variables, difficulty identifying coefficients; and students have difficulty in writing answers sequentially because algebra requires students to understand problems sequentially.

Examples of learning in madrasah e-learning on the introduction of algebraic forms, the teacher likes to make story questions in interesting videos. Next, students are asked to write the equation formed from the video. From the example above, teachers who have a positive attitude are certainly more creative in making teaching materials, so that students are motivated to learn, and students become active and creative.

In the second hypothesis, the effect of e-learning quality on e-learning satisfaction has a path coefficient of 0.511 (positive). However, an increase will follow the value of the e-learning quality variable in the deal of e-learning satisfaction. The effect of the variable quality of e-learning on e-learning satisfaction provides a p-value of $0.000 < = 0.05$; then H_0 is rejected. It means that the quality of e-learning has a significant and positive effect on e-learning satisfaction in a madrasah in seventh-grade algebra material in the Province DKI Jakarta. It means that if the quality of e-learning increases, the satisfaction of e-learning will also increase, and if the quality of e-learning decreases, the satisfaction of e-learning will also decrease. Research is connected to the findings of this study (Chen, 2021; Cheok & Wong, 2015; Prasetya & Harjanto, 2020; Kumar et al., 2021; Martinez-Arguelles & Batalla-Busquet, 2016; Nguyen, 2020; Puriwat & Tripopsakul, 2021; Salam & Farooq, 2020; Seta et al., 2020; Suryani & Sugianingrat, 2021), in their research about the quality of e-learning has a significant and positive effect on e-learning satisfaction. When using an e-learning madrasah to acquire algebraic material, students' satisfaction is significantly impacted by the e-quality learning in terms of administrative and technical support, teacher and student characteristics, and content and design. Thus, the quality of e-learning is one factor that affects the satisfaction of madrasah e-learning in learning algebra for seventh-grade in DKI Jakarta Province.

The interviews also support this; if the quality of madrasah e-learning is good, then the teacher is satisfied with learning algebra. If the quality of madrasah e-learning is not good, then the teacher is not satisfied with algebra learning. Interview results from teachers who are satisfied in learning algebra because teachers easily understand the content and design; there

is support from madrasah if teachers have difficulties. Teachers and students easily understand madrasah e-learning. Algebra learning forms a systematic and directed mindset; students are enthusiastic about learning algebra by video conference because they can meet virtually and discuss learning algebraic material. Difficulties in learning algebraic material using e-learning madrasah, including teachers must provide material and make videos for algebra learning, while the symbols available are not complete in the madrasah e-learning menu; and the content and design are less attractive so that students do not understand the use of madrasah e-learning in algebra learning which causes it to hinder learning; and the lack of adequate support and training for teachers. The lack of good tools makes evaluation materials for the government to provide tools that support achieving maximum algebra learning outcomes.

For example, some students have difficulty solving algebra problems $3x - 2 = 13$, they are confused with the letter "x". Students think that the problem cannot be solved, this shows that the variable in the form of letters is not an easy thing for students. Teachers must be able to direct students carefully. By using e-learning madrasah teachers can make interesting videos, where students can learn the material with pleasure and can be studied repeatedly. That means that e-learning madrasah provide convenience in algebra learning. Algebra which was previously considered difficult by students became a fun learning. The content and design of e-learning support algebra learning in writing mathematical symbols.

In the third hypothesis, the effect of e-learning flexibility on e-learning satisfaction has a path coefficient of 0.185 (positive). An increase will follow the value of the e-learning flexibility variable in the value of e-learning satisfaction. The effect of the e-learning flexibility variable on e-learning satisfaction has a p-value of $0.017 \leq 0.05$, so H_0 is rejected. That means e-learning flexibility significantly and positively impacts madrasah e-learning satisfaction in learning algebra material for seventh-grade in the Province DKI Jakarta. Its means that if e-learning flexibility increases, e-learning satisfaction will also increase, and if e-learning flexibility decreases, e-learning satisfaction will decrease. Research is connected to the findings of this study (Cheok & Wong, 2015; Cheok et al., 2017; Nguyen, 2020; Prasetya & Harjanto, 2020) in their research stated that e-learning flexibility significantly and positively affects e-learning satisfaction. The flexibility of place, time, and algebra learning materials using e-learning madrasah significantly affects satisfaction in learning algebraic materials using e-learning madrasah. So, the flexibility of e-learning is one factor that affects the satisfaction of madrasah e-learning in learning algebra for seventh-grade in DKI Jakarta Province.

The interviews also support this; if the madrasah e-learning is flexible, then the teacher is satisfied with algebra learning. If the madrasah e-learning is not flexible, then the teacher is not satisfied with algebra learning-interview results from teachers who are satisfied with learning algebra because teachers feel that e-learning madrasah is flexible. Teachers and students can learn algebra anywhere and anytime. Difficulties in learning algebraic material using e-learning madrasah, including algebra learning using e-learning madrasah, cannot be accessed from various devices optimally; the teacher must increase the learning time so that students understand the algebraic material, but that alone is still not optimal.

Examples of flexible algebra learning materials, are students making story questions in the form of videos related to the distribution of algebraic forms, the videos are uploaded to the madrasah e-learning. With the provision of material for addition and subtraction of algebraic

forms, students are encouraged to understand the division of algebraic forms independently. The flexibility of this material shows that the teacher wants to see the level of student understanding regarding the division of algebraic forms, and then the teacher provides confirmation of students' understanding.

In the fourth hypothesis, the effect of e-learning satisfaction on the desire to continue using e-learning has a path coefficient of 0.780 (positive). An increase will follow the value of the e-learning satisfaction variable in the value of the desire to continue using e-learning. The effect of the variable e-learning satisfaction on the desire to continue using e-learning has a p-value of $0.000 < = 0.05$. In comparison, H_0 rejected, which means that e-learning satisfaction has a significant and positive effect on the desire to continue using e-learning madrasah in algebra learning material in seventh grade in DKI Jakarta Province. If e-learning satisfaction increases, the desire to continue e-learning will also increase. If e-learning satisfaction decreases, the desire to continue e-learning will decrease. Research is connected to the findings of this study (Martinez-Arguelles & Batalla-Busquet, 2016; Puriwat & Tripopsakul, 2021; Salam & Farooq, 2020; Seta et al., 2020; Suryani & Sugianingrat, 2021), in their research stated that e-learning satisfaction significantly and positively affected the desire to continue using e-learning. The satisfaction of learning algebra by employing e-learning madrasah significantly affects the desire to continue learning algebraic material using e-learning madrasah. Thus, e-learning satisfaction is one factor influencing the desire to continue using madrasah e-learning in learning algebra for class VII in DKI Jakarta Province. With the teacher's desire to continue the use of madrasah e-learning, it can be concluded that algebra learning with madrasah e-learning can run well, and there are no significant obstacles.

The interviews also support this; if the teacher is satisfied with the madrasah e-learning, then the teacher wants to continue the use of madrasah e-learning in algebra learning. If the teacher is not satisfied with the madrasah e-learning, then the teacher does not want to continue the use of madrasah e-learning in algebra learning. Interview results from teachers who do not wish to continue using madrasah e-learning in algebra learning because teachers choose face-to-face learning over online learning. Difficulties in learning algebraic material using e-learning madrasah include: students and teachers are less able to use madrasah e-learning optimally in algebra learning; the expected algebra learning outcomes are not appropriate; and the limitations of features and access that students and teachers can use in learning algebra. Algebra learning with madrasah e-learning can improve teacher competence. Teachers can improve skills and insight in making algebra learning designs, and improve skills in communicating with students flexibly. This is a pedagogical competency built to complement effective learning solutions applied to algebra learning. The limitations of this study include: research respondents are limited to the teacher's perspective, this study is limited to algebraic material, and this study is limited to five research variables.

D. CONCLUSION AND SUGGESTIONS

Teacher attitudes have a positive and significant effect on e-learning satisfaction. The attitude of teachers who feel confident, happy, and willing to use e-learning madrasah in learning algebraic material has a positive effect on satisfaction in learning algebraic materials using e-learning madrasah. The quality of e-learning has a positive and significant effect on e-

learning satisfaction. The quality of e-learning in terms of content and design, administrative and technical support, and the characteristics of teachers and students using e-learning madrasah in learning algebraic materials have a positive effect on satisfaction in learning algebraic materials using e-learning madrasah. E-learning flexibility has a positive and significant effect on e-learning satisfaction. The flexibility of place, time, and algebra learning materials using e-learning madrasah has a positive effect on satisfaction in learning algebraic materials using e-learning madrasah. E-learning satisfaction has a positive and significant effect on the desire to continue using e-learning. Algebra learning satisfaction using e-learning madrasah has a positive effect on the desire to continue learning algebraic material using e-learning madrasah.

The study's findings offer guidance to the Directorate of Curriculum, Facilities, Institutions and Student Affairs Madrasah as the owner of madrasah e-learning: (1) regarding the lack of support to provide sufficient support and training for teachers to have confidence and ease in using e-learning madrasah in algebra learning; (2) related to design and content, to be upgraded where teachers and students can easily access and use it in algebra learning, can be used flexibly, and can be accessed with mobile phones; (3) related to the lack of equipment or devices that do not meet the needs of algebra learning, to provide adequate laptop equipment assistance to mathematics teachers to facilitate algebra learning; and (4) the existence of algebra learning with e-learning madrasah, needs to be followed up regarding the availability of internet networks and the need for internet quotas for teachers and students.

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