

THE INFLUENCE OF EDMODO LEARNING MEDIA IN INCREASING LEARNING MOTIVATION ON STUDENT LEARNING OUTCOMES AT SMKN 31 JAKARTA

Intan Nur Arini¹, Osly Usman², Roni Faslah³

Faculty of Economics, Universitas Negeri Jakarta, Indonesia

Email: intannurarini.15@gmail.com , oslyusman@unj.ac.id , ronifaslah@unj.ac.id

Abstrak (Indonesia)

Tujuan penelitian ini adalah untuk menganalisis bagaimana penggunaan media pembelajaran *edmodo* terhadap hasil belajar siswa yang dimediasi oleh motivasi belajar. Penelitian ini menggunakan metode kuantitatif dengan data primer melalui penyebaran kuesioner. Penelitian ini melibatkan populasi sebanyak 144 siswa dari kelas XI SMK Negeri 31 Jakarta. Dalam penelitian ini, teknik proposional random sampling digunakan, menggunakan tabel Isaac dan Michael dengan tingkat kesalahan 5% sehingga penentuan pengambilan sampel yakni sebanyak 105 responden. Teknik analisis data PLS-SEM dilakukan menggunakan program SmartPLS. Hasil uji hipotesis dari penelitian ini mendapati bahwa variabel media pembelajaran *edmodo* memengaruhi hasil belajar siswa, variabel media pembelajaran *edmodo* memengaruhi motivasi belajar, variabel motivasi belajar memengaruhi hasil belajar siswa. Selanjutnya, pengaruh media pembelajaran *edmodo* terhadap hasil belajar siswa juga terjadi secara tidak langsung melalui motivasi belajar sebagai mediator.

Abstrak (Inggris)

The aim of this research is to analyze how the use of Edmodo learning media affects student learning outcomes which are mediated by learning motivation. This research uses quantitative methods with primary data through distributing questionnaires. This research involved a population of 144 students from class XI of SMK Negeri 31 Jakarta. In this research, a proportional random sampling technique was used, using the Isaac and Michael table with an error rate of 5% so that the sample taken was 105 respondents. The PLS-SEM data analysis technique was carried out using the SmartPLS program. The results of hypothesis testing from this research found that Edmodo learning media variables influence student learning outcomes, Edmodo learning media variables influence learning motivation, learning motivation variables influence student learning outcomes. Furthermore, the influence of Edmodo learning media on student learning outcomes also occurs indirectly through learning motivation as a mediator.

Sejarah Artikel

Submitted: 30 November 2024

Accepted: 5 Desember 2024

Published: 6 Desember 2024

Kata Kunci

*Media Pembelajaran
Edmodo, Hasil Belajar,
Motivasi Belajar, Analisis
Jalur, Pendidikan.*

History Artikel

Submitted: 30 November 2024

Accepted: 5 Desember 2024

Published: 6 Desember 2024

Keywords:

*Edmodo
Learning Media, Learning
Outcomes, Learning
Motivation, Path Analysis,
Education.*

INTRODUCTION

Rapid technological advances have affected various aspects of life, including in the field of education. This development has brought about major changes in the way learning is carried out, one of which is through the use of information technology. One platform that utilizes technology in education is Edmodo, which allows the creation of virtual classes to support more interesting and effective learning.

Edmodo is a technology-based learning media that allows teachers and students to interact in a digital learning space. The use of Edmodo makes it easier for teachers to provide materials, assignments, and even exams online. Despite having many advantages, the implementation of Edmodo in learning still encounters several obstacles, such as limited devices and unstable internet networks in some schools.

Low student motivation to learn can make them interested in negative things, such as drug abuse or promiscuity. Wlodsowski and Jaynes adapted by Nabilah dan Romadlon (2024) state that although young people's motivation to learn will not disappear, it can develop in a positive or negative direction. Therefore, parents and teachers need to pay attention to the development of this motivation to guide students in a better direction.

However, the reality shows that students' learning motivation at SMKN 31 Jakarta is still relatively low. Some students show less focused behavior during learning, such as chatting or not doing assignments. This reflects the importance of the role of technology in improving students' motivation and learning outcomes, so that they can be more serious in participating in learning.

In this context, this study aims to determine how the influence of Edmodo learning media on students' learning motivation and learning outcomes at SMKN 31 Jakarta. It is hoped that the use of Edmodo can increase students' interest and achievement in learning, even though there are challenges related to technology accessibility. Through this study, it is hoped that solutions will be found to optimize the use of Edmodo to improve the quality of education at the school.

LITERATURE REVIEW

Student Learning Outcomes

Learning outcomes are the abilities acquired by students after following the learning process, which involve changes in cognitive, affective, and psychomotor aspects. According to Setiawan et al (2022) learning outcomes are manifested in changes in knowledge and behavior expressed in symbols, letters, or sentences. Purwaningsih (2022) added that learning is a process of behavioral change that includes skills, knowledge, attitudes, skills, and other abilities. Fauhah dan Rosy (2021) stated that ideal learning outcomes include psychological changes as a result of students' learning experiences, which are reflected in changes in behavior.

The three domains of learning outcomes, namely cognitive, affective, and psychomotor, each cover different objectives. Arifudin (2021) stated that the cognitive domain is related to knowledge and intellectual abilities, affective with changes in attitudes and values, and psychomotor with skills and abilities to act. Aliyyah et al (2017) explained that these three domains are interrelated and continuous, where the affective domain underlies the skills that appear in the psychomotor domain. Thus, optimal learning outcomes include positive changes that settled in the third domain.

Edmodo learning media

According to Nurfadillah et al (2021), learning media is a tool that can convey messages through various channels to stimulate students' thoughts, feelings, and desires, thereby supporting the creation of a learning process and the achievement of learning goals. Syafriafdi (2020) explains that educational technology is a combination of humans, machines, ideas, and procedures that help create a dynamic learning environment and support universities in facing the challenges of the world of education. Basori in (Latapamei and Rosy, 2021) added that Edmodo is a social network-based e-learning media that facilitates interaction between educators and students to improve teaching and learning activities.

Edmodo has various features that support learning, such as Assignment, Gradebook, File and Link, Quiz, Polling, and Library (Husna, 2022). Alfian et al (2022) explains that Edmodo allows communication between teachers and students through chat and comment columns, and can be accessed via smartphone devices. Based on several opinions, the indicators of technology-based learning media according to Irwansyah (2018) include interactivity, independence, accessibility, and enrichment, while according to Virgiawan et al (2018) the indicators include non-linearity, evaluation, feedback, multimedia, and collaborative learning.

Motivation to Learn

Student learning success is greatly influenced by their motivation. Students with high learning motivation tend to have good achievements, while low motivation has a negative

effect on their learning achievement. Harapan dan Sudibjo (2021) stated that learning motivation is influenced by coordination between teachers and parents, where parents help students understand the material, and teachers are responsible for setting the right learning methods. Learning motivation can be divided into two types, namely intrinsic, which comes from within the student, and extrinsic, which is influenced by external factors such as the environment and encouragement from others (Rahman, 2021)

Indicators of learning motivation according to Tampubolon et al. (2021) include the willingness to learn, encouragement in learning, and a supportive environment. Meanwhile, according to Uno in Nursakdiah et al (2023) indicators of motivation include the drive to succeed, enthusiasm for learning, and hope for the future. Based on these opinions, it can be concluded that the main indicators of learning motivation are enthusiasm for learning, drive to succeed, and appreciation for learning.

METHOD

According to Sugiyono in Ali et al (2022) the research method is a scientific way to obtain data with certain purposes and uses. This study uses a causal quantitative research method. According to Sugiyono in Darna & Herlina (2018), the causal quantitative approach is an approach in research that seeks the relationship between one variable and another variable that has a cause and effect. This study tests the established hypothesis and to find the influence between the independent variable and the dependent variable. According to Sugiyono in Indrawan Sanny et al (2020) what is meant by a research method is basically a scientific way to obtain data with certain purposes and uses. This study is included in quantitative causal research because this study aims to test the influence of the Edmodo learning media variables (X), learning motivation (Z), on student learning outcome variables (Y).

According to Sugiyono in Ajjiah & Selvi (2021) the sample is part of the number and characteristics of the population. To determine the size of the sample taken from the population, the researcher uses the formula proposed by Isaac and Michael. The technique used by researchers in sampling is by using the proportional random sampling technique or also known as balanced sampling. Proportional random sampling is the determination of samples from a population carried out randomly without considering the strata in the population. In determining the sample, researchers refer to the Isaac and Michael table with an error rate accuracy of 5%.

Using SmartPLS software version 4.0, data analysis was performed using the Partial Least Squares-Structural Equation Modeling (PLS-SEM) method. PLS is a multivariate statistical technique used to evaluate the relationship between independent and dependent variables. PLS-SEM involves two stages of evaluation to check the validity and reliability of the model: the measurement model (outer model) and the structural model (inner model). Before testing predictive and causal relationships, the research model must first undergo a cleaning process on the measurement model.

RESULTS AND DISCUSSION

Profil Respondent

Based on data collection from questionnaire answers obtained from 105 respondents, a picture of the respondent profile based on majors was obtained, as in the table below:

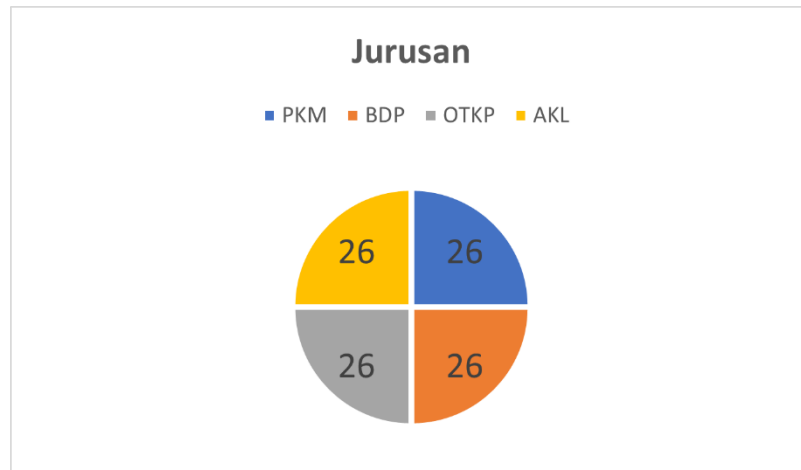


Figure 1. Number of Respondents Majors

Hypothesis Testing

Measurement Model Analysis (Outer Model)

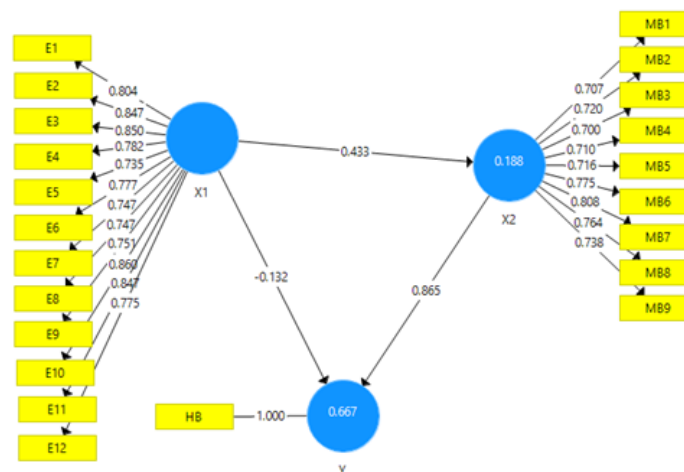


Figure 2. Outer Model.

Figure 2 shows the results of the outer model of the research that has been conducted. Based on the results in the figure, the researcher tested the outer model analysis as follows:

Convergent Validity

Outer Loading

Based on the table 1, it is known that all items in the research variables have an outer loading value > 0.70 so they are declared valid.

Table 1. Outer Loading

	X	Z	Y
E1	0.804		
E10	0.860		
E11	0.847		
E12	0.775		
E2	0.847		

	X	Z	Y
E3	0.850		
E4	0.782		
E5	0.735		
E6	0.777		
E7	0.747		
E8	0.747		
E9	0.751		
HB			1.000
MB1		0.707	
MB2		0.720	
MB3		0.700	
MB4		0.710	
MB5		0.716	
MB6		0.775	
MB7		0.808	
MB8		0.764	
MB9		0.738	

AVE (Average Variance Extracted)

Based on the table 2, it is known that the AVE value on the four variables is > 0.50 . So, it can be concluded that all variables have met the requirements of convergent validity.

Table 2. AVE

	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
X	0.947	0.960	0.954	0.632
Z	0.896	0.897	0.915	0.546
Y	1.000	1.000	1.000	1.000

Discriminant Validity

Based on the table 3, it is known that all indicators have values greater than 0.70, so they meet the discriminant validity criteria.

Table 3. Cross Loading

	X	Z	Y
E1	0.804	0.397	0.248
E10	0.860	0.311	0.177
E11	0.847	0.325	0.174
E12	0.775	0.281	0.154
E2	0.847	0.404	0.289
E3	0.850	0.471	0.286
E4	0.782	0.276	0.131
E5	0.735	0.225	0.118
E6	0.777	0.382	0.207
E7	0.747	0.273	0.070

	X	Z	Y
E8	0.747	0.339	0.154
E9	0.751	0.295	0.156
HB	0.243	0.808	1.000
MB1	0.524	0.707	0.575
MB2	0.429	0.720	0.558
MB3	0.279	0.700	0.519
MB4	0.356	0.710	0.551
MB5	0.282	0.716	0.555
MB6	0.322	0.775	0.642
MB7	0.243	0.808	0.701
MB8	0.259	0.764	0.604
MB9	0.151	0.738	0.647

Reliability

Based on the table 4, it is known that the Cronbach's Alpha and Composite Reliability values are > 0.70 . This shows that all constructs have a good level of reliability.

Table 4. Reliability

	Cronbach's Alpha	Composite Reliability	Keterangan
X	0.947	0.954	Valid
Z	0.896	0.915	Valid
Y	1.000	1.000	Valid

Inner Model

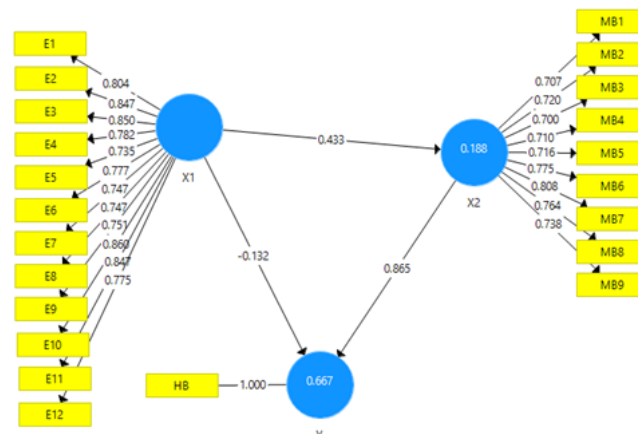


Figure 3. Inner Model

Figure 3 shows the results of the inner model of the research that has been conducted. Based on the results in the figure, the researcher tested the inner model analysis as follows:

R-Square (R^2)

Based on the table 5, the Adjusted R Square value on variable Z is 0.180 and on variable Y is 0.660. This means that variable Z is influenced by 18% and Y is influenced by 66% by variable X in this study, while the rest is influenced by other variables outside the study.

Table 5. R Square (R²)

	R Square	R Square Adjusted
Z	0.188	0.180
Y	0.667	0.660

Predictive Relevance (Q²)

Based on the table 6, it is known that the Q² value for both variables is greater than 0, so the model formed has an adequate level of predictive relevance.

Table 6. Predictive Relevance (Q²)

	SSO	SSE	Q ² (=1-SSE/SSO)
X	1248.000	1248.000	
Z	936.000	846.794	0.095
Y	104.000	35.641	0.657

**Hypothesis Test
Direct Effect Test**

Table 7. Direct Effect Test

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values
X -> Z	0.433	0.450	0.071	6.135	0.000
X -> Y	-0.132	-0.133	0.059	2.226	0.026
Z -> Y	0.865	0.870	0.038	22.882	0.000

a. The Effect of Edmodo Learning Media on Learning Motivation

Based on the table above, the T value on X-> Z is 6.135 with a significance value of 0.000 < 0.05, which means H₀ is rejected. The original sample value shows a value of 0.433. Thus, it can be concluded that Edmodo learning media has a significant effect on learning motivation.

b. The Effect of Edmodo Learning Media on Learning Outcomes

Based on the table above, the T value on X->Y is 2.266 with a significance value of 0.026 < 0.05, which means H₀ is rejected. The original sample value shows a value of -0.132. Thus, it can be concluded that Edmodo learning media has a significant effect on learning outcomes

c. The Effect of Learning Motivation on Learning Outcomes

Based on the table above, the T value on Z->Y is 22.882 with a significance value of 0.000 < 0.05, which means H₀ is rejected. The original sample value shows a value of 0.865. Thus, it can be concluded that learning motivation has a significant effect on learning outcomes.

Indirect Influence Test

Based on the table 8, it is known that the results of the indirect influence of the use of Edmodo learning media on student learning outcomes mediated by learning motivation have a t value of 5.529 with a p value of 0.000 < 0.05 and the original sample value is 0.375.

Table 8. Indirect Influence Test

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values
X -> Z -> Y	0.375	0.392	0.068	5.529	0.000

DISCUSSION

H1: Based on data analysis, Edmodo learning media has a significant and positive influence on student learning outcomes, with an original sample value of -0.132, t-statistic $2.226 > 1.96$, and p-value $0.026 < 0.05$. These results indicate that the use of Edmodo can directly improve student learning outcomes. Research by Muhajir et al (2019) also supports these findings, where the average post-test score of the experimental group using Edmodo reached 80.31 compared to the control group of 67.65. These findings confirm significant differences between the experimental and control groups in learning outcomes.

H2: Edmodo learning media also has a significant effect on students' learning motivation, with an original sample value of 0.433, t-statistic $6.135 > 1.96$, and p-value $0.000 < 0.05$. These findings indicate that Edmodo is able to increase learning motivation directly. These results are in line with Wahyuni and Sugiharta (2019) research, which shows that the use of Edmodo-based e-learning increases mathematics learning motivation at the junior high school level based on the results of the ANOVA test. Thus, Edmodo can create a new learning atmosphere that motivates students.

H3: Learning motivation has a significant and positive influence on student learning outcomes, with an original sample value of 0.865, t-statistic $22.882 > 1.96$, and p-value $0.000 < 0.05$, so H3 is accepted. This study is consistent with the findings of Wati et al (2023), which shows that learning motivation plays an important role in improving learning outcomes, especially in mathematics. Motivation that arises both from within students and from the surrounding environment can help students achieve better learning outcomes.

H4: The influence of Edmodo on student learning outcomes also occurs through learning motivation as a mediator, with an original sample value of 0.375, t-statistic $5.529 > 1.96$, and p-value $0.000 < 0.05$. This finding indicates that learning motivation strengthens the influence of Edmodo learning media on student learning outcomes. Research by Rosyidah et al. (2018) supports this, showing an increase in student learning motivation from the moderate to high category with an average score increasing from 2.88 to 3.70, followed by an increase in student learning outcomes from an average of 82.22 to 88.12 with classical completeness reaching 91.18%.

CONCLUSION AND RECOMMENDATION

Conclusion

Based on the results of previous research and discussions regarding the influence of Edmodo learning media in increasing learning motivation on student learning outcomes at SMKN 31 Jakarta, the following conclusions can be drawn: (1) There is a positive and significant influence between the Edmodo learning media variable on learning motivation. Learning motivation greatly influences the learning process, if previously learning was only centered on the teacher, but with the use of Edmodo learning media, students show more interest in learning. (2) There is a positive and significant influence between the Edmodo learning media variable on student learning outcomes. Thus, the use of Edmodo as a learning medium can significantly increase students' academic achievement, showing the effectiveness of this platform in supporting the learning process and improving learning outcomes. (3) There is a positive and significant influence between the learning motivation variable on student learning outcomes. Because motivation is very important in the learning process in order to

achieve good results. Because with the motivation that arises from within the student or from others who can help students achieve good learning outcomes.

Recommendation

Future researchers are encouraged to explore additional variables that influence learning motivation, implement research in different schools, and experiment with combining Edmodo with methods such as flipped classroom or blended learning to evaluate their effects on motivation and learning outcomes. Schools should ensure adequate infrastructure, including devices and a stable internet connection, to facilitate smooth access to Edmodo. These efforts aim to optimize the use of Edmodo and improve the effectiveness of the learning process.

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