Jurnal Teknologi Pendidikan, December 2023, 25 (3), 528-538
DOI: http://dx.doi.org/10.21009/JTP2001.6
p-ISSN: 1411-2744 e-ISSN: 2620-3081
Accredited by Directorate General of Strengthening for Research and Development
Available online at http://journal.unj.ac.id/unj/index.php/jtp

Effect of Implementing the Google Classroom Based on Learning Motivation, Interest in Learning and Student Learning Outcomes in Craft and Entrepreneurship Subjects

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Received : October 31, 2023
Revised : December 2, 2023
Accepted : December 26, 2023

Abstract

Advancements in modern technology provide teachers with opportunities to develop their skills in using media and teaching materials. This shift helps transform the instructional paradigms used in school learning processes, making education more modern and high-quality. Therefore, teachers need to be proficient in using information technology to enhance classroom learning, especially in subjects like crafts and entrepreneurship. This study is a quantiative research that focuses on examining the impact of Google Classroom on students' learning motivation, interest, and outcomes. The research was conducted at SMK Negeri 1 Tualang, Tualang District, Siak Regency, with a sample size of 95 eleventh-grade students. The data collected from this study were deemed valid and reliable, particularly concerning the influence of Google Classroom on learning motivation. The research findings were obtained through the use of questionnaires, with 33 respondents, providing data on the Google Classroom variable with a maximum score of 40. This indicates that there is a significant difference between the learning outcomes of students who were taught using the Online Google Classroom Learning Method and those taught using the conventional learning model in the subject of Crafts and Entrepreneurship for the 10th-grade students of SMK Negeri 1 Tualang in the Odd Semester of the Academic Year 2023/2024.

Keywords: E-Learning Google Classroom, Learning Motivation, Learning Interest

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How to Cite: Ponimin, Riki Mukhaiyar, Yeka Hendriyani, & Hasan Maksum. (2024). Effect of Implementing the Google Classroom Based on Learning Motivation, Interest in Learning and Student Learning Outcomes in Craft and Entrepreneurship Subjects. *JTP - Jurnal Teknologi Pendidikan*, *25*(3), 528-538. https://doi.org/10.21009/jtp.v25i3.44965

INTRODUCTION

The advancement of technology in the modern era offers teachers the opportunity to develop their skills in using media and teaching materials. This can encourage student motivation and increase their enthusiasm for participating in educational activities. According to the Regulation of the Minister of Education and Culture Number 65 of 2013, the use of information technology makes learning more effective and efficient. It makes school learning activities more interesting, dynamic, and creative. The goal is to promote the use of effective and efficient learning methods. Therefore, integrating information technology into learning is an effort to enhance the level of teaching and learning activities.

It is essential to change the paradigm used by instructors in the learning process to align with modernization and improve the quality of learning. Today,

teachers also need to be proficient in using and operating information technology to enhance classroom learning. This aims to raise teaching standards and the quality of graduates who can compete in the contemporary era. Currently, learning emphasizes modernization with the aid of advanced technology, aiming to help students understand the material in an engaging, productive, effective, motivating, constructive, and enjoyable manner. Additionally, life skills from applications are expected of students. The potential application of information and communication technology as a learning medium includes the internet; many schools now have computers connected to the internet.(Adnan & Anwar, 2020)

Google's innovative program, Google For Education, is noteworthy. This product is designed to provide teachers with the tools they need to help students explore scientific theories. According to its official website, Google For Education offers services such as Google Classroom, Google Mail, Google Calendar, Google Drive, and Google Documents, which are highly beneficial for the teaching and learning process in educational institutions. Therefore, it is feasible to implement Google Classroom as a service in Indonesia.(Feri & Zulherman, 2021)

Entrepreneurial knowledge is embedded in subjects like crafts and entrepreneurship, which require significant motivation and enthusiasm to master. Thus, learning media must be supported to ensure students have high motivation and interest in studying crafts and business. Information technology, such as the internet, computers, and mobile phones, can be utilized as a medium in teaching crafts and entrepreneurship. E-learning is not only used to access materials but also to guide students in achieving learning objectives, according to Haryoso Wicaksono (2019). It can monitor learning outcomes and summarize student progress reports. E-learning should enhance students' knowledge, resulting in effective learning outcomes. One example is the use of Google Classroom tools in this educational process. To facilitate learning, teachers at SMK Negeri 1 Tualang use the Google Classroom program. The principal recommended this program because it is more versatile, easier to use, and more flexible.(Pakpahan & Fitriani, 2020)

Based on observations and interviews conducted with teachers of craft and entrepreneurship subjects, it was found that there are several advantages in learning activities using E-learning (Google Classroom). Among these advantages are that several students actively participate in the class (Google Classroom) and submit assignments on time. The teacher also mentioned that with online learning, the level of student engagement in the learning process has increased. (Kurniawati et al., 2019)Learning outcomes will be optimal if there is stimulation or encouragement from the students themselves. When students are motivated by the material, they are more likely to review what they have learned. Afridiani & Faridah (2021) states that "Learning outcomes will be optimal if there is motivation.

The more appropriate the motivation given, the more successful the learning will be. Therefore, motivation will always determine the intensity of the learning effort for students." Learning motivation plays an important role in supporting student learning outcomes. It helps students understand and retain what they are learning. Thus, the expected learning outcomes to support student achievement can be attained by the school.(Ożadowicz, 2020)

METHODS

Based on the type of data, the approach used is a quantitative approach. The quantitative approach is systematic and investigates cause-and-effect relationships. The data collection and processing are in the form of numbers using research instruments or documentation and are analyzed using statistics. This is done to address issues regarding the level of learning motivation, learning interest, and student learning outcomes(Fernández-castilla et al., 2020). The research is conducted to determine the impact of Google Classroom on students' learning motivation, learning interest, and learning outcomes. Therefore, the researcher uses simple regression analysis with a descriptive quantitative research type conducted through surveys of the research subjects in their actual conditions.

A sample is a subset of the number and characteristics possessed by the population.(Sugiyono, 2014). The sampling method used in this research is non-probability sampling, a technique that does not give each member of the population an equal chance to be selected as a sample. In this non-probability sample, the researcher uses purposive sampling, which is based on certain considerations and the specific objectives to be achieved. Table 1 show the population data consists of the data from the 10th grade at SMK Negeri 1 Tualang. Based on the researcher's considerations, the 10th-grade Chemistry 1 class, consisting of 32 students, is selected as the experimental group. Meanwhile, the 10th-grade Chemistry 2 class, also consisting of 32 students, is chosen as the control group (Sefriani et al., 2021).

Table 1. Experimental Design

No.	Class	Research Sample	Students
1.	X Kimia 1	Experiment Class	32
2.	X Kimia 2	Control Class	32

An operational definition of a variable is a formulation based on characteristics or aspects that can be studied, expressed in operational terms so the variable can be measured. In this research, the aspects being studied include the influence of the Google Classroom application on students' learning motivation, interest, and outcomes in the Craft and Entrepreneurship subject at SMK Negeri 1 Tualang, Siak Regency. The research variables are:

1. Influence of Google Classroom Application As Independent Variable(X):

Google Classroom is an online learning platform that allows teachers and students to connect from anywhere at any time. It helps teachers create, distribute, and grade assignments without face-to-face interaction. The application facilitates the teaching and learning process via the internet. The indicators for the use of Google Classroom are(Ikhwan et al., 2021):

a. Ease of use
b. Performance

with the questionnaire item as below

Table 2. Google Classroom Quistionnaire Item

Dimension	Indicator	Item
Knowledge	Know about the Google Classroom application	1
Benefit	Provides convenience in assignments	2

	Providing benefits in learning	8
Excess	Flexible	3,4,5
Lack	Environmentally friendly	6,7
Experience	Pleasant	9
	Proud	10

2. Students' Learning Motivation As Dependent Variables(Y1):

Learning motivation encompasses all psychological drivers within students that encourage them to learn and achieve their learning goals. In this study, learning motivation is measured through a questionnaire. Indicators of learning motivation include the desire to succeed, drive and need to learn, hopes and aspirations for the future, appreciation for learning, engaging learning activities, a conducive learning environment, perseverance with tasks, resilience in facing difficulties, frequent independent work, interest in various problems, quick boredom with routine tasks, maintaining opinions, not giving up on beliefs, and frequently seeking and solving problems. Higher scores indicate higher learning motivation, measured using a questionnaire.(Sahulatta & Suparman, 2023).
with the quistionnaire item as below

Table 3. Learning Motivation Quistionnaire Item

Component	Indicator	Description	Item
Value	Intrinsic Goal Orientation	Motivation that is oriented towards students	1, 8
	Extrinsic Goal Orientation	Motivation that is oriented from outside of students	11,13
	Task Value	Students' assessment of how important, interesting and useful the assignment or material given is	4,10,15
Expectancy	Control of Learning Beliefs	Belief that what you do (study) will provide positive results	2,7,9
	Self-Efficacy for Learning and Performance	Confidence in getting learning results that match expectations	5,6,12
Affective	Test Anxiety	Students' anxiety in receiving material and doing assignments	3,14

3. Students' Learning Interest As Dependent Variables (Y2):

Learning interest is the individual's awareness of being attracted, happy, and deliberately attentive to a particular subject over a long period, leading to overall behavioral changes. This interest drives students to focus more on the subject. Strong interest can make students learn wholeheartedly without coercion. Learning interest scale, which includes cognitive and affective aspects. Students fill out the scale based on their perceived learning interest. Higher scores indicate higher learning interest.(Rizki et al., 2022).

4. Students' Learning Outcomes As Dependent Variables (Y3):

Learning outcomes are the results obtained after participating in learning activities, indicating the success or failure of a teaching activity. This is reflected in grades, scores, or numbers after a test. In this study, test scores are used to determine learning outcomes.(Sawaluddin & Muhammad, 2020).

Data analysis that use in this research has many type of data analysis, the purpose of data analysis is to facilitate the understanding of the results obtained from the impact of Google Classroom on students' learning motivation, learning interest, and learning outcomes at SMK Negeri 1 Tualang, Siak Regency. This study draws conclusions from data analysis. Several tests are conducted to examine the data, including:

1. Descriptive Test

Descriptive statistics allow researchers to describe the data obtained accurately without drawing general conclusions. The research data will be described empirically using SPSS ver 19 for Windows and Microsoft Office 2010.(Hidayati et al., 2021)

2. Normality Test

The normality test is conducted to determine whether there is a normal distribution in the independent and dependent variables. The Kolmogorov-Smirnov Test is used as the testing method. If the significance of the Kolmogorov-Smirnov test is greater than 0.05, the normality test is satisfied.(Lestaria Simvony et al., 2021)

3. Linearity Test

Linearity is the linear (straight-line) relationship between variables. The linearity assumption is tested to determine whether the relationship under study is linear. The researcher uses the curve fit method, noting that if the significance of the linear model is less than 0.05 and the significance of the deviation from linearity is greater than 0.05, the independent variable has a linear relationship with the dependent variable.(Bolung et al., 2017)

4. Correlation Test

The correlation test is conducted to determine if there is a relationship between two or more variables and to measure the strength of that relationship. The correlation test technique will use SPSS ver 19 for Windows.(Hikmawati et al., 2021).

5. Simple Regression Test

The simple regression test is conducted to understand the impact of one variable on another. The researcher aims to determine the effect of the independent variable (Google Classroom) on the dependent variables (learning motivation, learning interest, and learning outcomes). The simple regression calculation technique uses the F-test with SPSS ver 19 for Windows. The decision-making criterion for the F-test is that if the F-value is less than the F-table value and the significance is greater than 0.05, the independent variable does not affect the dependent variable. However, if the F-value is greater than the F-table value and the significance is less than 0.05, the independent variable affects the dependent variable.(Ananda Saraswati & Mertayasa, 2020).

6. Determination Test

The determination test is conducted to determine the contribution of the independent variable to the dependent variable. The researcher wants to know whether Google Classroom increases or decreases students' learning motivation, interest, and outcomes.

RESULTS & DISCUSSION

This study has four variables: using Google Classroom as variable X, Learning Motivation as variable Y1, Learning Interest as variable Y2, and Learning Outcomes as variable Y3. The researcher obtained data by distributing a research questionnaire on the use of Google Classroom on Learning Motivation and Learning Interest, consisting of 18 statements for variable X, 20 statements for variable Y1, and 30 statements for variable Y2, to 32 respondents. Meanwhile, data for variable Y3 were obtained through a test. The descriptive statistical results of the research data are presented in Table 4.

Table 4. Descriptive Output Result

		Google_Classroom	Learning Motivation	Learning Interest
N	Valid	32	32	32
	Missing	0	0	0
Mean		33.18	3.30	41.00
Median		33.00	3.00	41.00
Mode		29	3	43
Std. Deviation		4.558	585	4.684
Range		18	2	25
Minimum		22	2	26
Maximum		40	4	51

The variable of Google Classroom usage consists of three dimensions: knowledge of Google Classroom, benefits of Google Classroom, and strengths and weaknesses of Google Classroom. From these three dimensions, 10 (ten) questions were formulated and validated. Scores were determined using a Likert scale with four answer alternatives, where the highest score is 4 and the lowest score is 1. Based on the research results from the questionnaire with a total of 32 respondents, data on the Google Classroom variable (X) were obtained, with a maximum score of 40 and a minimum score of 22. The calculated Mean (M) was 33.18, Median (Me) was 33, and Mode (Mo) was 29.

To determine the interval values from the questionnaire results regarding Google Classroom usage, the author used the formula: number of classes = 1 + 3.3 log n, where n is the number of samples or respondents. From the calculation, it is known that n = 32, thus the number of classes obtained is 1 + 3.3 log 32 = 6.011096002 rounded to 6 interval classes. The data range is calculated using the formula maximum value - minimum value + 1, resulting in a data range of 40 - 22 + 1 = 19. Meanwhile, the class width (range)/K = 19/6 = 3.1 rounded to 3. The frequency distribution can be seen in Table 5. (Sujannah et al., 2020).

Table 5. Distribution of frequency of use of Google Classroom

No	Interval	Frequency	Precentage
1.	22 – 24	1	3%
2.	25 – 27	0	0%
3.	28 – 30	12	36,3%
4.	32 – 33	7	21,2%
5.	34 – 36	2	6,1%
6.	37 – 39	7	24,3%
7.	40 – 42	3	9,1%
	Total	32	100%

a. Results of Normality Test

The normality assumption referred to in the classical assumptions of the Ordinary Least Squares (OLS) approach is that the residuals formed by the linear regression model are normally distributed. The criterion for determining whether residuals are normally distributed or not is through the Kolmogorov-Smirnov Test and Normal P-P Plot approaches. If the data is normally distributed, then the significance value > α = 0.05, and conversely, if the data is not normally distributed, the significance value < α = 0.05. The hypothesis for the normality of the data can be formulated as follows:

Ho: Data is normally distributed, KS non-significant sig. > α = 0.05

Ha: Data is not normally distributed, KS significant sig < α = 0.05

The normality test is conducted to determine whether the data follows a normal distribution, which is a crucial assumption for many statistical analyses. This test helps validate the use of parametric statistical methods, such as t-tests and ANOVA, which rely on normally distributed data to produce accurate and reliable results. Additionally, understanding whether the data is normally distributed provides insight into its characteristics, such as skewness and kurtosis. In the context of regression analysis, normality of the residuals ensures the validity of hypothesis tests and confidence intervals. Common methods for testing normality include the Kolmogorov-Smirnov Test, which compares the sample distribution with a normal distribution, the Shapiro-Wilk Test, which is specifically designed to test normality, and the Normal Q-Q Plot, which graphically assesses if data points follow a straight line, indicating normality. The hypotheses for a normality test typically involve a null hypothesis (H0) that the data is normally distributed and an alternative hypothesis (Ha) that the data is not normally distributed. If the p-value is greater than 0.05, we accept H0, indicating that the data is normally distributed; if the p-value is less than 0.05, we reject H0, suggesting that the data is not normally distributed.

Table 6. Residual Normality Test Results

	Residual
N	33
Normal Parameters[a,b]	0000
Mean	2.48895
Std. Deviation	135
Absolute	101
Most Extreme Differences	-135
Positive	777
Negative	583
Kolmogorov-Smirnov Z	
Asymp. Sig. (2-tailed)	

Based on Table 6 above, the Kolmogorov-Smirnov test yielded a value of 0.777 with a significance level greater than 0.05. This means we accept the null hypothesis (Ho) that the KS value is insignificant, indicating that the residual data is normally distributed.(Ramadhani et al., 2020)

b. Results of Multicollinearity Test

The multicollinearity test is conducted to assess the independence among independent variables. The hypotheses for this test are as follows:

Ho: The independent variable X1 exhibits multicollinearity (VIF > 10).

Ha: The independent variable X1 does not exhibit multicollinearity (VIF < 10).

In this context, if the Variance Inflation Factor (VIF) for the independent variable X1 is greater than 10, we would reject the null hypothesis (Ho), indicating multicollinearity among the independent variables. Conversely, if the VIF for X1 is less than 10, we would fail to reject the null hypothesis, suggesting no multicollinearity.

Table 7. Multicollinearity Test Results

Model	T	Sig	Collinearity Statistics	
			Tolerance	VIF
(Constant)	3.279	.003		
Use of Google Classroom	2.357	.025	226	4.425

Based on Table 7, it is observed that there are no VIF values exceeding 10. Therefore, the decision is to reject the null hypothesis (Ho) and accept the alternative hypothesis (Ha). The conclusion drawn is that there is no multicollinearity among the independent variables (Google Classroom Usage). According to the classical assumptions of linear regression, a good linear regression model is free from multicollinearity.

c. Results of Heteroskedasticity Test

Another classical assumption in regression models is homoscedasticity, which implies constant variance. The heteroskedasticity test is conducted using the Glejser Test and by examining scatterplot graphs. The Glejser Test is performed by regressing the absolute residual values against other independent variables. If the β coefficient is significant, it indicates the presence of heteroskedasticity in the model.

Table 8. Heteroscedasticity Test

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	-2.261E-015	3.855		.000	1.000
Use of Google Classroom	.000	.213	.000	.000	1.000

It can be seen from Table 8 above that the significance value for the dependent variable (residual values) regressed against the independent variable (Google Classroom usage) is 1.00. This indicates that there is no heteroskedasticity in this model. In other

words, all independent variables in this model have the same/homogeneous distribution.

Based on the research, it can be concluded that the experimental group and the control group had relatively similar starting points. Subsequently, the experimental group received a specific treatment using the Google Classroom learning model, while the control group received treatment as usual, which is conventional learning. After both the experimental and control groups underwent testing, normality and homogeneity tests were conducted, with the results showing that both distributions were normal and homogeneous.

Hypothesis testing was conducted on the learning outcome data using a two-tailed test by comparing the mean difference in learning outcomes between students taught using the online Google Classroom learning method and students taught using the conventional learning model. A summarizes the hypothesis testing results can be seen in Table 9 below.

Table 9. Hypothesis Testing Learning Results for Experimental Class and Control Class

No	Class	N	X	S	Dk	t_h	t_t	Conclusion
1	Experiment	32	94,75	10,333	63	2,763	1,998	$T_{count} > t_{table}$ H_a Accepted
2	Control	32	88,73	6,961				

The testing results at a significance level of α 0.05 (confidence level of 95%) yielded t-value = 2.763 and t-table = 1.998. Thus, t-value > t-table (2.763 > 1.998). Since the t-value > t-table using a two-tailed test, the hypothesis is accepted. Therefore, the null hypothesis (H0) is rejected, and the alternative hypothesis (Ha) is accepted. This indicates that there is a significant difference between the learning outcomes of students who were taught using the Online Google Classroom Learning Method and those taught using the conventional learning model in the subject of Crafts and Entrepreneurship for the 10th-grade students of SMK Negeri 1 Tualang in the Odd Semester of the Academic Year 2023/2024.

CONCLUSION

The use of Google Classroom has a positive effect on students' learning motivation and interest in the subject of Crafts and Entrepreneurship for 11th-grade students at SMK Negeri 1 Tualang, Siak Regency. This is demonstrated through multiple linear regression analysis, yielding an r-value of 0.847, an Adjusted R2 value of 0.688, and a t-value > t-table (2.357 > 2.045) with a significance level of 0.025 (two-tailed testing). Thus, the better the use of Google Classroom, the better the learning motivation and interest of students in the classroom in the subject of Crafts and Entrepreneurship for 11th-grade students at SMK Negeri 1 Tualang, Siak Regency.

Based on the research conducted on 10th-grade students at SMK Negeri 1 Tualang in the Odd Semester of the Academic Year 2023/2024 in the subject of Crafts and Entrepreneurship, it can be concluded that there is a significant effect of using the Online Google Classroom Learning Method on the Learning Outcomes of Crafts and Entrepreneurship for 10th-grade students at SMK Negeri 1 Tualang in the Odd Semester of the Academic Year 2023/2024. This is evidenced by the hypothesis testing using the t-test formula, resulting in a t-value > t-table (2.763 > 1.669). Thus, it can be said that the proposed hypothesis has been accepted. This is further supported by the significant difference in the average learning outcomes between the control group and the experimental group. The experimental group obtained an average score of 94.75, while the control group obtained an average score of 88.72. Therefore, it can be concluded that the alternative hypothesis (H1) in this study is accepted.

ACKNOWLEDGEMENT

The author would like to thank all parties involved in writing this scientific work, including the supervisors and examiners whose names are attached to the author in this article and all parties who cannot be mentioned one at a time.

REFERENCES

Adnan, M., & Anwar, K. (2020). *Online learning amid the COVID-19 pandemic : Students ' perspectives*. *2*(1), 2–8.

Afridiani, W., & Faridah, A. (2021). Validitas Pengembangan E-modul Berbasis Android Mata Kuliah Food Control. *Edukatif : Jurnal Ilmu Pendidikan*, *3*(5), 2450–2458. https://doi.org/10.31004/edukatif.v3i5.780

Ananda Saraswati, N. L. P., & Mertayasa, I. N. E. (2020). Pembelajaran praktikum kimia pada masa pandemi covid-19 : qualitative content analysis kecenderungan pemanfaatan teknologi daring. *Wahana Matematika Dan Sains: Jurnal Matematika, Sains, Dan Pembelajaran.*, *14*(2), 144–161.

Bolung, M., Ronald, H., & Tampangela, K. (2017). *Analisa penggunaan metodologi pengembangan perangkat lunak*. *1*(1), 1–10.

Feri, A., & Zulherman, Z. (2021). Analisis Kebutuhan Pengembangan Media Pembelajaran IPA Berbasis Nearpod. *Jurnal Imiah Pendidikan Dan Pembelajaran*, *5*(3), 418. https://doi.org/10.23887/jipp.v5i3.33127

Fernández-castilla, B., Declercq, L., Jamshidi, L., & Natasha, S. (2020). *Visual Representations of Meta-Analyses of Multiple Outcomes : Extensions to Forest Plots, Funnel Plots , and Caterpillar Plots*.

Haryoso Wicaksono. (2019). INFORMASI (Jurnal Informatika dan Sistem Informasi). *Jurnal Informatika Dan Sistem Informasi*, *10*(2), 154–163.

Hidayati, L., Rizal, F., & Syahril, S. (2021). Development of Android-Based Career Guidance Media. *Jurnal Teknologi Informasi Dan Pendidikan*, *14*(2), 99–105. https://doi.org/10.24036/tip.v14i2.458

Hikmawati, H., Suastra, I. W., Suma, K., Sudiatmika, A. A. I. A. R., & Rohani, R. (2021). Effect of Problem-Based Learning Integrated Local Wisdom on Student Hots and Scientific Attitude. *Jurnal Penelitian Pendidikan IPA*, *7*(SpecialIssue), 233–239. https://doi.org/10.29303/jppipa.v7ispecialissue.1118

Ikhwan, S., Syah, N., Giatman, M., & ... (2021). Development of Engineering Mechanics Module as Student's Learning Material in Google Classroom. *EDUCATIO: Journal*, *6*(3).

Kurniawati, M., Santanapurba, H., & Kusumawati, E. (2019). Penerapan Blended Learning Menggunakan Model Flipped Classroom Berbantuan Google Classroom Dalam Pembelajaran Matematika Smp. *EDU-MAT: Jurnal Pendidikan Matematika*, *7*(1), 8–19. https://doi.org/10.20527/edumat.v7i1.6827

Lestaria Simvony, Y., Budi Santosa, A., & Nugroho, W. (2021). The Role of Parents in Blended Learning Towards Student Character Values in The Covid-19 Pandemic. *ZAHRA: Research and Tought Elementary School of Islam Journal*, *2*(2), 134–143. https://doi.org/10.37812/zahra.v2i2.249

Ortiz-Martínez, V. M., Andreo-Martínez, P., García-Martínez, N., Pérez de los Ríos, A., Hernández-Fernández, F. J., & Quesada-Medina, J. (2019). Approach to biodiesel production from microalgae under supercritical conditions by the PRISMA method. *Fuel Processing Technology*, *191*(November 2018), 211–222. https://doi.org/10.1016/j.fuproc.2019.03.031

Ożadowicz, A. (2020). Modified blended learning in engineering higher education during the COVID-19 lockdown-building automation courses case study. *Education Sciences*, *10*(10), 1–20. https://doi.org/10.3390/educsci10100292

Pakpahan, R., & Fitriani, Y. (2020). Analisa Pemafaatan Teknologi Informasi Dalam Pemeblajaran Jarak Jauh Di Tengah Pandemi Virus Corona Covid-19. *JISAMAR (Journal of Information System, Applied, Management, Accounting and Researh)*, *4*(2), 30–36.

Ramadhani, R., Bina, N. S., Sihotang, S. F., Narpila, S. D., & Mazaly, M. R. (2020). Students' critical mathematical thinking abilities through flip-problem based learning model based on LMS-google classroom. *Journal of Physics: Conference Series*, *1657*(1). https://doi.org/10.1088/1742-6596/1657/1/012025

Rizki, N., Rista, N., & Marlena, N. (2022). Pengaruh Motivasi Belajar dan Lingkungan Teman Sebaya Terhadap Minat Melanjutkan Studi ke Perguruan Tinggi Siswa Kelas XII BDP SMK Negeri di Surabaya. *Jurnal Pendidikan Tambusai*, *6*(2), 10330–10341. www.smkglobalmandiri.sch.id,

Sahulatta, E., & Suparman, H. (2023). *Prestasi Belajar IPS Dipengaruhi oleh Persepsi Atas Media Pembelajaran dan Motivasi Belajar Siswa di Kota Tangerang Selatan*. *6*(58), 74–83.

Sawaluddin, S., & Muhammad, S. (2020). Langkah-Langkah dan Teknik Evaluasi Hasil Belajar Pendidikan Agama Islam. *Jurnal PTK Dan Pendidikan*, *6*(1), 13–24. https://doi.org/10.18592/ptk.v6i1.3793

Sefriani, R., Sepriana, R., Wijaya, I., Radyuli, P., & Menrisal. (2021). Blended learning with edmodo: The effectiveness of statistical learning during the covid-19 pandemic. *International Journal of Evaluation and Research in Education*, *10*(1), 293–299. https://doi.org/10.11591/IJERE.V10I1.20826

Sugiyono. (2014). Metode penelitian pendidikan pendekatan kuantitatif.pdf. In *Metode Penelitian Pendidikan Pendekatan Kuantitatif, Kualitatif Dan R&D*.

Sujannah, W. D., Cahyono, B. Y., & Astuti, U. P. (2020). Effect Of Blended Learning Using Google Classroom On Writing Ability Of Efl Students Across Autonomy Levels. *Teaching English with Technology*, *20*(2), 82–97.