



The Effectiveness of YouTube Animated Videos on Economics Learning Outcomes at Al-Mukhlis Islamic High School

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Abstract:

To address low student learning outcomes regarding the economics topic of supply and demand, this study evaluates the effectiveness of using YouTube-based animated videos. Employing a quantitative approach via a quasi-experimental design with a pretest-posttest control group, the study involved 50 Grade X students from the Social Sciences stream, divided equally into experimental and control groups. Data collected through learning achievement tests were analyzed using SPSS software. The results indicate a significant difference between the two groups (Sig. 0.001 < 0.05); the experimental group achieved a high N-Gain score (0.754, high category) compared to the control group (0.405, medium category). These findings confirm that the integration of digital animation significantly enhances students' economic competence while offering an effective multimedia learning solution for modern classroom instruction.

Keywords: economics learning outcomes, YouTube animated videos, quantitative experiment

Introduction

Economics learning outcomes serve as an primary indicator reflecting students' level of understanding regarding economic concepts, while also acting as a benchmark for instructional effectiveness (Zevender, 2021; Mayer 2022). In the context of global economic development, mastering concepts that are both abstract and practical such as supply and demand dynamics reflects students' ability to comprehend economic phenomena and make decisions based on economic principles. In the context of global economic development,

mastering concepts that are both abstract and practical such as supply and demand dynamics reflects students' ability to comprehend economic phenomena and make decisions based on economic principles (Rohmawati & Zevender, 2022; Belay 2022). For senior high school students, a comprehensive understanding of market mechanisms serves as a vital foundation for building critical thinking skills and the economic literacy required in daily life.

At the micro level, issues persist regarding the low economics learning outcomes of Grade X Social Studies (IPS) students at SMA Islam Al-Mukhlis, Bandung Regency. Based on pre-research data from the 2023/2024 to 2025/2026 academic years, the majority of students consistently failed to achieve the Minimum Mastery Criterion (KKM) established by the school at 75, as presented in Table 1:

Table 1. Raw Score Data (Final Exams/Midterm Exams/Class Tests) for Students, Academic Years 2023–2026

No	Academic	Number of Students	≥KKM (Competent)	<KKM (Not Yet Competent)
1.	2023/2024	50	12	38
2.	2024/2025	57	15	42
3.	2025/2026	52	10	42
	Total	159	37	122

Source: Raw data from the Deputy Principal for Curriculum Affairs at SMA Islam Al-Mukhlis

The data indicates that over three consecutive academic years, the number of students scoring below the KKM remained dominant: 38 out of 50 students in the 2023/2024 academic year, 42 out of 57 students in 2024/2025, and 42 out of 52 students in 2025/2026. This condition indicates that conventional teaching methods have failed to optimize students' comprehension of economic material, particularly regarding supply and demand topics that require analytical skills. Therefore, instructional innovations are urgently needed to facilitate students in grasping economic concepts more concretely and meaningfully.

Senior High Schools hold a strategic role in developing students' economic literacy. To achieve this goal, classroom instruction should not only focus on material delivery but also leverage media capable of visualizing abstract concepts into more accessible formats. With the advancement of information technology, modern students are classified as digital natives; hence, the utilization of audio-visual media, such as YouTube-based animated videos, has the potential to enhance students' attention, motivation, and engagement in the learning process (Wijayanti 2025; Mayer 2022).

Nevertheless, previous research regarding the effectiveness of YouTube-based animated video media still presents inconsistent findings. Several studies report that animated videos significantly improve conceptual understanding and learning outcomes. Conversely, other studies indicate that digital media yields no significant difference unless supported by proper instructional design, and may even increase students' cognitive load (Mayer 2022; Nurhani et al., 2023). Furthermore, most prior studies were conducted across different subjects, educational levels, or student characteristics. Research specifically examining the effectiveness of YouTube animated video media on economics learning outcomes regarding supply and demand among Grade X Social Studies students at SMA Islam Al-Mukhlis, Bandung Regency, remains highly limited. This condition reveals a critical research gap that warrants further investigation. This study is grounded in Mayer's Cognitive Theory of Multimedia Learning (Mayer 2022). This theory posits that learners acquire knowledge more effectively when information is presented through a combination of complementary visual and verbal elements. Presenting material via animated videos enables students to construct better mental representations, reduces cognitive load, and facilitates the comprehension of abstract economic concepts. Consequently, this theory provides a conceptual foundation indicating that the use of YouTube-based animated videos has the potential to improve students' learning outcomes.

Based on these empirical problems, research gaps, and theoretical foundations, this study hypothesizes that the utilization of YouTube-based animated video media exerts a significant influence on students' economics learning outcomes regarding supply and demand compared to conventional instruction. This study is expected to provide theoretical contributions by enriching the literature on multimedia-based learning media, alongside practical contributions as a reference for educators in designing more innovative, engaging, and effective economics instruction.

Literature Review

The assimilation of educational material is far more effective when information is presented in a structured manner. Furthermore, learners must be able to integrate newly acquired knowledge with their existing cognitive schemas or prior understanding. This concept of linking information is defined as "meaningful learning" within Ausubel's learning theory (Zevender et al., 2024; Ardiani 2022).

Specifically regarding the use of media, Multimedia Learning Theory serves as a crucial foundation. As posited by (Zevender et al., 2023; Mayer 2022), this theory highlights the human cognitive mechanism of processing information separately through a dual-channel system: the verbal channel and the visual channel. By synthesizing this theoretical framework, the integration of YouTube-based animated videos

(Variable X) directly addresses the abstract nature of economic topics by optimizing visual and verbal processing. This instructional mechanism ensures that students can efficiently convert complex market dynamics into stable cognitive schemas, providing a strong theoretical justification for why this media treatment is hypothesized to significantly enhance student learning outcomes (Variable Y) compared to conventional methods.

Advancements in learning theory subsequently prompted a revision of the framework by Anderson and Krathwohl. This revision aimed to align the classification of learning objectives with developments in cognitive psychology and the characteristics of modern learning. Anderson and Krathwohl shifted the taxonomy's orientation from nouns to verbs, thereby better reflecting students' cognitive activities during the learning process.

Among the various approaches that have emerged in the evolution of learning theory, the cognitive perspective stands out. This approach positions the learner as an active agent who independently constructs understanding through diverse learning experiences. According to (Zevender, 2021; Idrus 2023), this is possible because cognitive learning is fundamentally a complex mental activity. The process requires the engagement of internal brain functions such as memory, thinking skills, and the ability to process information which ultimately generate new knowledge for the student.

In addition to cognitive theory, behaviorist theory also plays a role in the evolution of learning theories. According to (Rohmawati & Zevender, 2022; Maydiantoro 2022), behaviorist theory views learning as a behavioral change resulting from the relationship between stimulus and response. Nevertheless, modern learning trends increasingly favor the use of instructional media that emphasize cognitive activity and student engagement.

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Table 2. Previous Research

No	Title & Researcher/Year	Variabel, Approach & analysis	Research Results
1	The Use of Video Media to Enhance Understanding of Economic Concepts Sari dkk., (2022)	X: Video Media Y: Conceptual Understanding Quantitative Experimental	Dynamic visualizations are more effective than static media for understanding economic concepts.
2	The Effectiveness of Animation Media on Learning Motivation Regarding Economic Curves Avicena & Syofyan, (2023)	X: Animation Media Y: Learning Motivation; Approach: Quantitative. Analysis: Descriptive and Inferential.	Animation simplifies abstract concepts and boosts student motivation.
3	Integrating the YouTube Platform as a Supplement to Economics Learning in the Digital Era Lestari, (2024)	X: YouTube platform Y: Cognitive learning outcomes; Approach: Quantitative (quasi-experimental) N-Gain score	There was an increase in learning outcomes of approximately 30%.

Research Methodology

This study employs a quantitative approach using a quasi-experimental method and a Non-equivalent Control Group Design (Pretest-Posttest) to examine the causal impact of a media intervention on the dependent variable. To ensure strict methodological rigor and consistency across all statistical reporting, this design systematically outlines both descriptive and inferential evaluation procedures. This design was implemented to provide a systematic overview of student learning outcomes before and after the treatment and to compare the effectiveness of the experimental and control groups without disrupting existing classroom structures (Sudjana 2021). The study population comprised all Grade X Social Studies (IPS) students at Al-Mukhlis Islamic Senior High School in Bandung Regency. Sampling was conducted using a purposive sampling technique based on the criterion of equivalent initial ability in the Economics subject. Based on this criterion, a sample of 50 respondents was selected and divided into two groups: Class X IPS 1 (n = 25) served as the experimental group using YouTube animated video media, while Class X IPS 2 (n = 25) served as the control group receiving conventional instruction. The research variables were classified as follows: YouTube animated video media (X) as the independent variable, and Economics learning outcomes regarding the topic of Demand and Supply (Y) as the dependent variable. The YouTube animated video media variable was operationalized through dimensions of visual quality, audio clarity, message delivery, and content appeal, measured using a questionnaire. Meanwhile, the dependent variable (learning outcomes) was measured based on students' cognitive achievement levels (C1–C4) using an objective multiple-choice test administered during the pre-test and post-test. All data

were collected using a test instrument (15 items) and a five-point Likert scale questionnaire (10 items), both developed based on empirical indicators. Each variable was measured to ensure comprehensive and in-depth data coverage. Instrument validity results are presented in Table 3.

Table 3. Research Instrument Validity.

Statement Items	ri-itd	Statement Items	ri-itd	Statement Items	ri-itd
Y.1	0.699	Y.10	0.633	X.4	0.832
Y.2	0.576	Y.11	0.633	X.5	0.871
Y.3	0.578	Y.12	0.655	X.6	0.814
Y.4	0.453	Y.13	0.611	X.7	0.890
Y.5	0.484	Y.14	0.738	X.8	0.852
Y.6	0.484	Y.15	0.806	X.9	0.826
Y.7	0.495	X1	0,812	X.10	0.884
Y.8	0.678	X2	0,845		
Y.9	0.475	X3	0,798		

Source: researcher elaboration

Based on Table 3, the validity summary indicates that all measurement instruments possess good construct validity, as evidenced by their correlation coefficients. Prior to hypothesis testing, a series of prerequisite analyses were conducted, including a normality test (One-Sample Shapiro-Wilk) and a test for homogeneity of variance (Levene's Test). This stage was crucial to ensure that the data were objective, normally distributed ($p > 0.05$), and homogeneous ($p > 0.05$) before proceeding with further hypothesis testing. The final data analysis employed descriptive analysis to map the respondents' average pre-test and post-test scores, alongside inferential statistical analysis using the Independent Sample t-Test. Additionally, the magnitude of the improvement in learning effectiveness was assessed using Normalized Gain (N-Gain) analysis. All data processing was performed using IBM SPSS Statistics software. These procedures were carried out to ensure the accuracy of the results in scientifically addressing the research problem.

Results and Discussions

1.1. Descriptive analysis

This study was conducted at SMA Islam Al-Mukhlis. The selection of this site was based on the school's commitment to enhancing the quality of students' cognitive learning through the integration of digital technology-based media, particularly in the Economics subject. Specifically, Grade X was chosen due to its curriculum focus on the topics of Demand and Supply. These topics are strategically oriented toward developing an understanding of fundamental economic concepts, curve analysis, and the relationship between price and quantity, making them a relevant context for exploring the effectiveness of using YouTube animated video media on student learning outcomes.

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A descriptive analysis was performed to examine respondent response patterns and student score achievements for each variable, utilizing frequency distributions, mean scores, and standard deviations. The student learning outcome variable was measured using cognitive test instruments (pre-test and post-test) administered to both experimental and control classes, while the variable regarding the effectiveness of YouTube animated video media was measured using a 10-item questionnaire.

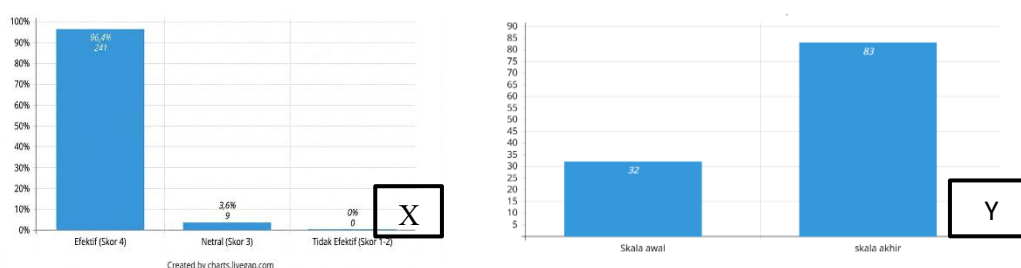


Figure 1. Overview of Respondents Regarding Variables X and Y

Source: Research Results (Processed Data)

Descriptive analysis of the experimental class revealed a mean pre-test score of 32.80 (standard deviation: 12.897), with a minimum score of 13 and a maximum of 53. Interval scale analysis categorized the students' initial proficiency level as "Low." However, following the instructional intervention using YouTube animated video media, the mean post-test score rose significantly to 83.48 (standard deviation: 10.709), with scores ranging from a low of 60 to a high of 100. These findings indicate that the implementation of YouTube animated video media at SMA Islam Al-Mukhlis successfully fostered a comprehensive theoretical and practical understanding of supply and demand concepts among students.

For comparison, the control group—which utilized conventional textbook-based media—recorded a mean pre-test score of 33.64 (standard deviation: 10.743). Following instruction, the control group's mean post-test score increased to 60.52 (standard deviation: 8.432), with scores ranging from 47 to 80. While the control group showed an aggregate learning outcome improvement of 26.88 points, this gain was not as optimal as that of the experimental group, which surged by 50.68 points. This reflects the fact that the audiovisual media intervention provided a stronger stimulus for student comprehension of the learning material.

The variable regarding the effectiveness of YouTube animated video media yielded the highest performance scores compared to other variables, with the mean percentage of responses falling into the "Very Effective" category. Notably, questionnaire results showed a very strong level of agreement,

with 96.4% of respondents (rated "Very High") deeming the media effective; only 3.6% expressed a neutral stance, and there was no indication of rejection (0%). This signifies a strong internal drive regarding the acceptance of this instructional medium. Overall, this high level of response demonstrates that students at Al-Mukhlis Islamic High School not only hold a highly positive perception regarding the use of YouTube animated videos but also achieve a tangible improvement in learning mastery following the implementation of this medium.

These empirical findings align with and extend prior studies in economics education. While (Sari et.al., 2022; Avicena & Syofyan, 2023; Zevender, 2019) established that dynamic visual aids simplify abstract economic curves and boost motivation, the current research specifically demonstrates that integrating the YouTube platform yields a superior learning gain (surging by 50.68 points) compared to traditional instruction. Furthermore, supported by Lestari, (2024), the high student acceptance rate (96.4%) confirms that structured digital platforms effectively optimize the dual-channel cognitive processing mechanism, offering a more robust alternative to conventional methods in overcoming conceptual learning barriers.

1.2. Data Analysis and Hypothesis Testing

Table 4. IBM SPSS Statistics Output: Independent Samples T-Test Results

Test Category	<i>t</i>	<i>df</i>	Sig.(2-tailed)	Mean Difference	Std.Error Difference	95% Confidence Interval
Equal variances assumed	-8.423	48	<0.001	-22,960	2.726	(-28,441,-17,479)
Equal variances not assumed	-8.423	45.496	<0.001	-22,960	2.726	(-28,449,-17,471)

Source: IBM SPSS Statistics Output 2026

Based on the IBM SPSS Statistics output visualized in Table 4, a *t*-value of -8.423 was identified, alongside *df* = 48 and a Sig. (2-tailed) value of < 0.001. Given that this probability value is below the alpha threshold of 0.05, H_0 is statistically rejected and H_1 is accepted. Empirically, the logical consequence of this test confirms the existence of a significant difference in learning outcomes when comparing the achievements of the experimental class and the control class.

The Mean Difference of -22.960 empirically indicates that the average learning outcome in the experimental class was 22.96 points higher than that of the control class following the implementation of the treatment. The appearance of the negative sign is solely due to the systematic calculation mechanism within the IBM SPSS Statistics software, which follows a specific subtraction sequence. Therefore, this

technical detail in no way diminishes the substantive conclusion that the average learning outcome of the experimental group was superior to that of the control group.

Table 5. Output IBM SPSS Statistics Hasil Paired Samples T-Test

Paired Variables	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval	<i>t</i>	<i>df</i>	Sig.(2-tailed)
Pair 1 (Pretest-Posttest)	-50.680	14.456	2.891	(-56.647,-44.713)	-17.529	24	<0.001

Source: IBM SPSS Statistics 2026 output.

Based on the IBM SPSS Statistics output visualized in Table 5, a *t*-value of -17.529 was identified, accompanied by *df* = 24 and a Sig. (2-tailed) value of < 0.001. Given that this empirical probability falls below the 0.05 threshold, the test concludes decisively that H_0 is rejected and H_1 is accepted. This mathematical evidence demonstrates a highly significant difference when comparing pre-test and post-test scores within the experimental group. Consequently, the implementation of YouTube animated video media is convincingly confirmed to boost student learning outcomes, specifically regarding the subject matter of supply and demand.

These empirical findings indicate a significant increase in learning outcomes following the students' participation in an instructional process that integrated YouTube animated video media. This cognitive gain strongly suggests that YouTube animated video media effectively facilitates students in mastering the material with a far superior level of effectiveness compared to the pre-treatment condition.

A comparative evaluation using the Normalized Gain (N-Gain) test revealed that the experimental class achieved an N-Gain score of 75.4% (classified as "high"), contrasting sharply with the control class, which recorded only 40.5% (classified as "medium"). This percentage disparity provides empirical evidence that the acceleration of learning outcomes in the experimental class was far superior to that of the control class. In conclusion, this phenomenon confirms that integrating YouTube animated video media is more effective at boosting students' economics learning outcomes particularly regarding supply and demand when compared to conventional instructional approaches that do not utilize such media.

Table 6. Descriptive Statistics Output for the Questionnaire

Variabel	N	Minium	Maximum	Mean	Std.Deviation
Total X1	25	38	40	39,60	0.764
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Source: Data processed by the researcher using IBM SPSS Statistics (2026)

Referring to Table 6, data from 25 students yielded a minimum score of 38, a maximum of 40, a mean of 39.60, and a standard deviation of 0.764. The student response rate reached 99% and was classified as "very good," indicating that the YouTube animated video medium is highly engaging, communicative, and valid for use in economics instruction regarding supply and demand. Subsequent analysis began with classical assumption tests to ensure the multiple linear regression model satisfied the Best Linear Unbiased Estimator (BLUE) criteria. The Kolmogorov-Smirnov normality test showed a significance value above 0.05 (indicating normal data). The multicollinearity test yielded a Tolerance of 0.614 (>0.10) and a VIF of 1.629 (<10), indicating the absence of multicollinearity. A Durbin-Watson value of 1.843, combined with a randomly distributed scatterplot pattern, confirms that the model is free from autocorrelation and meets the homoscedasticity requirements for further interpretation.

Conclusion

Based on the empirical findings and hypothesis testing, the integration of YouTube animated videos significantly improves tenth-grade economics learning outcomes regarding supply and demand at SMA Islam Al-Mukhlis, Bandung Regency. First, a statistically significant difference exists between students taught using YouTube animated videos and those using conventional textbooks, as confirmed by an Independent Samples T-Test significance value of 0.001 ($p < 0.05$) alongside superior post-test averages in the experimental group. Second, this media demonstrated high instructional effectiveness, evidenced by an N-Gain score of 75.4% (high category) for the experimental class compared to 40.5% for the control class, corroborated by favorable student responses. Third, combining visual, audio, and animated elements effectively bridges the gap between abstract economic theories and practical comprehension. Consequently, YouTube animated videos serve as a valid, practical, and highly recommended instructional alternative for enhancing high school economics achievement.

References

- Anderson, Lorin W., dan David R. Krathwohl. 2001. A taxonomy for learning, teaching, and assessing: A revision of Bloom's taxonomy of educational objectives: complete edition. Addison Wesley Longman, Inc. <https://eduq.info/xmlui/handle/11515/18824> (Juni 26, 2026).
- Ardiani, Kadek Emi. 2022. "Multimedia Pembelajaran Interaktif Berorientasi Teori Belajar Ausubel Pada Muatan IPA Materi Sumber Energi." *Jurnal Penelitian dan Pengembangan Pendidikan* 6(1): 26–35. doi:10.23887/jppp.v6i1.45159.
- Avicena, Yusuf, dan Rita Syofyan. 2023. "Video animasi berbasis Powtoon pada pembelajaran ekonomi di tingkat SMA." *Peka* 11(1): 1–8.
- Belay, Mulat Alebachew. 2022. "Learning Theories: Educational Perspectives. 8th Edition. New York, NY: Pearson, 2020, 582 Pages, LCCN: 2018034999; ISBN: 9780134893754 ISBN: 0134893751

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- (Paperback). Author: Schunk. D. H., North Carolina University, 2020." *International Journal of Learning and Teaching* 14(3): 95–98. doi:10.18844/ijlt.v14i3.7888.
- Idrus, Idrus. 2023. "Pembelajaran berbasis kognitif multimedia pada kalbu perspektif al-Qur'an." PhD Thesis. Institut PTIQ Jakarta. <https://repository.ptiq.ac.id/id/eprint/1321/> (Juni 26, 2026).
- Lestari, Rina. 2024. "Pengaruh Model Contextual Teaching and Learning Berbantuan Video terhadap Hasil Belajar Siswa Kelas X SMA Negeri 1 Agung Pekurun." PhD Thesis. IAIN Metro. <http://repository.metrouniv.ac.id/id/eprint/10479/> (Maret 28, 2026).
- Nurhani, Rohmawati, L., & Saefullah Zevender, P. (2023). *Pengaruh Penerapan Model Pembelajaran Discovery Learning Dengan Pendekatan Saintifik Terhadap Hasil Belajar Siswa The Effect of Application of Discovery Learning Learning Models with a Scientific Approach to Student Learning Outcomes*. 6(12), 1968–1974. <https://doi.org/10.56338/jks.v6i12.4459>
- Maydiantoro, Albet. 2022. "Teori Belajar Behavioristik." <http://repository.lppm.unila.ac.id/40959/> (Juni 26, 2026).
- Mayer, Richard E. 2022. "The future of multimedia learning." *The Journal of Applied Instructional Design* 11(4): 69–77.
- Mulyani, A., Zevender, P. S. ., Kholish, F. K. ., Liandy, S. ., & Aziz, G. . (2024). The Long-Term Effects of Parental Absence as Migrant Workers on the Psychosocial Development and Education of Young Children: A Literature Review in Indramayu Regency: Indonesia. *TOFEDU: The Future of Education Journal*, 3(5), 1302–1315. <https://doi.org/10.61445/tofedu.v3i5.223>
- Nurhani, Rohmawati, L., & Saefullah Zevender, P. (2023). *Pengaruh Penerapan Model Pembelajaran Discovery Learning Dengan Pendekatan Saintifik Terhadap Hasil Belajar Siswa The Effect of Application of Discovery Learning Learning Models with a Scientific Approach to Student Learning Outcomes*. 6(12), 1968–1974. <https://doi.org/10.56338/jks.v6i12.4459>
- Sari, Dita Mayang, Muhammad Rb, dan Vetri Yanti Zainal. 2022. "Pengembangan Video Pembelajaran Ekonomi untuk Meningkatkan Hasil Belajar Peserta Didik kelas XI SMAS Taman Siswa Teluk Betung TA. 2021/2022." *Ekonomia: Jurnal Ilmiah Mahasiswa Pendidikan Ekonomi* 4(1): 1–9.
- Sudjana, A. 2021. "Bisnis Jasa Titip di Era Digital: Teori dan Implementasi." Yogyakarta: Andi Offset.
- Sugiyono.(2010). *Metode Penelitian Kuantitatif Kualitatif dan R&D*. Bandung: Alfabeta.
- Zevender, P. S. (2021). *PENERAPAN MODEL PEMBELAJARAN ACTIVE LEARNING TIPE QUIZ TEAM TERHADAP HASIL BELAJAR SISWA (Penelitian Eksperimen Quasi Pada Mata Pelajaran Ekonomi (Kelas X di SMA Negeri 1 Gegesik Kabupaten Cirebon)*.
- Zevender, P. S. (2019). *PENGARUH PENERAPAN MODEL PEMBELAJARAN ACTIVE LEARNING TIPE QUIZ TEAM TERHADAP KEMAMPUAN BERPIKIR KRITIS DENGAN VARIABEL MODERATOR MOTIVASI BELAJAR PESERTA DIDIK (Penelitian Eksperimen Pada Mata Pelajaran Ekonomi Kelas X SMA Negeri 1 Gegesik Kabupaten Cirebon)*. *SINAU: Jurnal Ilmu Pendidikan Dan Humaniora*, 5(1), 17–29.
- Zevender, P. S., Disman, D., Mulyadi, H., Mardetini, E., & Adriani, D. (2024). Learning model development moodle-based problem-based learning to improve critical thinking ability. *JPPi (Jurnal Penelitian Pendidikan Indonesia)*, 10(3), 693–698. <https://doi.org/https://doi.org/10.29210/020242982>
- Zevender, P. S., Anggraeni, S., Widayati, & Elis Suryani. (2024). *PENGARUH KOMPETENSI MANAJERIAL KEPALA SEKOLAH TERHADAP KINERJA GURU DI SMK TARBIYATUL ULUM KARAWANG. JURNAL TEKNOLOGI PENDIDIKAN DAN PEMBELAJARAN DIGITAL*, 1(1), 17–26. <https://doi.org/10.5281/zenodo.17003649>
- Zevender, P. S., Fitriyah, Mardetini, E., Adriani, D., & Hakami, L. I. (2023). *PENERAPAN MODEL PEMBELAJARAN PROBLEM BASED LEARNING (PBL) DENGAN VARIABEL MODERATOR MOTIVASI BELAJAR UNTUK MENINGKATKAN KEMAMPUAN PEMECAHAN MASALAH. Amal Insani*, 3(2), 62–70. <https://doi.org/https://doi.org/10.56721/amalinsani.v3i2.127>

