

THE EFFECT OF *THE FLIPPED CLASSROOM* LEARNING MODEL ON STUDENT LEARNING OUTCOMES IN INDONESIAN LANGUAGE CLASS IV AT MIS HIDAYATUL MUHAJIRIN PALANGKARAYA

Fathul Jannah^{1a*}, Rahmad^{2b}, Sri Normuliati^{3c}

¹Madrasah Ibtidaiyah Teacher Education, Faculty of Tarbiyah and Teacher Training

²State Islamic University of Palangkaraya, Indonesia

^a: fathuljannahj066@gmail.com

^b: rahmad@uin-palangkaraya.ac.id

^c: sri.normuliati@uin-palangkaraya.ac.id

(*) Corresponding Author

fathuljannahj066@gmail.com

ARTICLE HISTORY

Received : 20-10-2025

Revised : 07-11-2025

Accepted : 30-11-2025

KEYWORDS

Flipped Classroom;
Learning Outcomes;
Indonesian Language
Learning; Elementary
School; Quasi
Experimental Design

ABSTRACT

The purpose of this research is to detail the implementation of the Flipped Classroom model at MIS Hidayatul Muhajirin's Indonesian IV class, determine the students' learning outcomes after the model's implementation, and assess the model's impact on those results. A quantitative strategy based on a Nonequivalent Control Group Design quasi-experimental design is used in the study. While the findings demonstrate that video-based self-learning and reinforcement of face-to-face materials have been used to deploy Flipped Classroom, the increase in learning outcomes in experimental classrooms remains small. Since the significance level of the Mann-Whitney U test was 0.569 (> 0.05), we may conclude that the two groups did not vary significantly in their ability to learn. However, with the right infrastructure and students' level of preparedness, Flipped Classroom may be an effective alternative learning paradigm that boosts engagement, group work, and student autonomy in the classroom.

This is an open access article under the CC-BY-SA license.



INTRODUCTION

Since education is fundamentally concerned with the development of character, thinking styles, and problem-solving competencies that are relevant to the demands of the science and technology advancements in the twenty-first century, it plays a crucial role in the holistic development of students' potential. Education, thus, is not limited to classroom instruction but encompasses all aspects of human lifelong learning about the world around us, including the ins and outs of social dynamics, the workings of nature, and the nature of reality itself. This is in line with the view that education has a very wide scope, covers various dimensions of human life, and is not limited by a certain space or time (Iqbal et al., 2022: 280).

In the formal realm, the implementation of education in schools is carried out through a curriculum that is always updated so that it is relevant to the needs of society and the development of the era (Marlina, 2022: 67). In the Independent Curriculum, Indonesian subjects have a strategic position because through language learning, students gain knowledge, understand subject matter, communicate with educators and peers, and develop language skills that

include the ability to listen, read, write, and speak. Indonesian language not only plays a role as a communication medium, but also as a means of understanding national culture, strengthening national identity, and developing students' literacy in understanding texts and social phenomena (Ali, 2020: 35).

However, based on empirical conditions in the field, especially in the fourth grade Indonesian learning at MIS Hidayatul Muhajirin, the achievement of students' learning outcomes has still not reached maximum results. This weakness is seen mainly in the aspects of productive skills such as the ability to speak and convey ideas systematically, logically, and communicatively in front of educators and classmates. This phenomenon indicates that the learning process still tends to be dominated by conventional lecture-based approaches, so that learning is more *teacher-centered*. As a result, students tend to be passive recipients of information and have not had extensive opportunities to practice developing language skills in a real and meaningful context.

This situation shows the need for the application of learning innovations that not only convey material in unison, but also provide a more active, independent, reflective learning experience, and provide space for students to build and construct their knowledge independently. One of the relevant learning models to implement is **Flipped Classroom**. Conceptually, this model changes traditional learning patterns by placing basic material learning activities outside the classroom through videos, digital modules, or interactive media, so that face-to-face activities in the classroom can be optimally utilized for discussion, collaboration, problem-solving, presentation of ideas, and language skills exercise. Thus, learners are placed as active individuals who are responsible for their learning, while educators play the role of facilitators who direct the process of knowledge construction.

Flipped Classroom is a model that prioritizes the active role of students through the use of technology to access learning materials without being limited by space and time, while face-to-face sessions in the classroom are used for project activities, strengthening concept understanding, and providing feedback on students' learning development (Johnson, 2013:10). A number of studies report that **Flipped Classroom** is able to have a positive impact on learning motivation, concept understanding, increasing technological literacy, independent learning success, critical thinking skills, and learning outcomes in various disciplines and levels of education. This model is considered effective because it combines the advantages of technology-based self-learning with collaborative, meaningful, and student-centered classroom learning activities. In the context of Indonesian language learning, various studies have shown that this model has the potential to improve communication skills, fluency in expressing opinions, skills in compiling information systematically, and confidence in presenting ideas. So, the demands of the Independent Curriculum's emphasis on 21st-century skills—including creativity, teamwork, communication, and critical thinking—are also aligned with the adoption of Flipped Classroom. This model allows students to set the rhythm and way of learning more flexibly, while classroom activities are focused on practice, concept application, and collaboration (Wahyuni et al., 2024: 18957).

Based on previous studies and research findings, it can be concluded that the application *of Flipped Classroom* in Indonesian learning has great potential to improve students' learning activities, both in terms of activeness, independence, participation, and collaboration. The increase in learning activities is indirectly expected to contribute to improving learning outcomes, especially in productive skills such as speaking and presenting ideas. Thus, the purpose of this research was to investigate how the Flipped Classroom approach at MIS Hidayatul Muhajirin influences the learning results of fourth graders in Indonesian. The findings of this study are expected to make an empirical contribution and become a reference in the development of learning strategies that are more relevant, innovative, adaptive, and more effective compared to conventional approaches that have been often used in learning.

METHOD

Utilizing a Nonequivalent Control Group Design, this research employs a quantitative method inside a quasi-experimental framework. There are two groups in this design: the experimental group and the control group. The Flipped Classroom model was used as a therapy in the experimental group, while the control group continued to study using the traditional paradigm. A pretest was administered to both groups to establish their baseline abilities before to therapy. In order to measure the efficacy of the learning process, both groups are administered a posttest after it is over.

Hidayatul Muhajirin Palangka Raya (MIS) was the site of the study. All of the participants were fourth graders; using a complete sampling approach, 47 kids from two classes—class IV A, which served as the experimental group, and class IV B, which served as the control group—formed the sample. The data collecting tool used a pretest and posttest format that aligns with the learning indicators for speaking and presenting abilities in Indonesia. In order to find out how much of an impact the Flipped Classroom model had on students' learning outcomes, the researchers used comparative statistical tests to compare the students' performance before and after treatment, as well as in the experimental and control groups.

RESULTS AND DISCUSSION

The research proved, by actual evidence, that the data collecting tools were up to snuff. Based on the continual exceeding of the computed r value over the r in the table and the significance value being below the 0.05 level, all assertions on the initial, core, and closing activity instruments are deemed legitimate. As for the instrument's suitability for the research, the reliability test revealed that Cronbach's Alpha scores varied from 0.875 to 0.965, indicating a very robust degree of internal consistency.

During the data analysis phase, the Shapiro-Wilk normalcy test revealed that there was a significant value of less than 0.05 for all pretest and posttest scores in the control and experimental groups. The results show that the data have an irregular distribution, thus we tested our hypotheses using the non-parametric Mann-Whitney U test.

In terms of descriptive statistics, there was a small but noticeable improvement in both groups' average posttest and pretest scores. The average in the control group went up from 82.17 to 83.91, but in the experimental group it went up from 80.83 to 81.67. No significant change has been seen in the rise.

A significant value of 0.569, which is more than 0.05, was produced using the Mann-Whitney U test on the posttest value. As a result, the two groups' learning results were not significantly different. These results show that when compared to traditional learning models, the implementation of the Flipped Classroom approach in this research did not significantly impact student learning outcomes.

Overall, these findings were obtained through a series of tests that included validity, reliability, normality, descriptive analysis, and Mann-Whitney U tests.

Table of Results of the Validity Test of the Initial Activity Instrument

No. Item	r Count	r Table	Itself	Information
KA1	0.939	0.632	0.000	Valid
KA2	0.896	0.632	0.000	Valid
KA3	0.85	0.632	0.002	Valid

The results of the validity test of the initial activity instrument showed that all statements had a calculated r value greater than the r of the table (0.632) and a significance value of less than 0.05. Thus, all items (KA1, KA2, KA3) are declared valid and suitable for use as research instruments.

Table of Validity Test Results of Core Activity Instruments

No. Item	r Count	r Table	Sig. (p-value)	Information
KI1	0.904	0.632	0.000	Valid
KI2	0.863	0.632	0.001	Valid
KI3	0.913	0.632	0.000	Valid
KI4	0.967	0.632	0.000	Valid
KI5	0.938	0.632	0.000	Valid
KI6	0.967	0.632	0.000	Valid

Based on the results of the validity test of the core activity instrument with a total of 10 respondents ($df = 8$), the table r value of 0.632 was obtained. The correlation results between each statement item (KI1–KI6) and the total score showed that the calculated r -value was in the range of 0.863 to 0.967 with a significance value (p -value) < 0.05 . Thus, all instrument items in the core activity variables are declared valid and suitable for use in the research.

Table of Results of the Instrument Validity Test Closing Activities

No.	Item	r	Count	r Table	Sig. (p -value)	Information
KP1		0.914	0.632	0.000		Valid
KP2		0.921	0.632	0.000		Valid
KP3		0.970	0.632	0.000		Valid

All items (KP1, KP2, KP3) had a Pearson correlation value ranging from 0.914 to 0.970, with a significance value of $0.000 < 0.05$, according to the findings of the validity test of the closing activity instrument. Since this number is higher than the table's r -value of 0.632, we can say that all of the entries are legitimate and appropriate for the study.

Reliability Test Results Table (Cronbach Alpha)

Instruments	Number of Items	Cronbach's Alpha	Reliability Categories	Information
Early Activities	3	0.875	Highly Reliable	Reliable, usable
Core Activities	6	0.965	Highly Reliable	Reliable, very high consistency
Closing Activities	3	0.928	Highly Reliable	Reliable, worth using

Based on the results of the reliability test, the Cronbach's Alpha values for each instrument are as follows: the initial activity is 0.875, the core activity is 0.965, and the closing activity is 0.928. All of these values are above 0.70, so the instrument is declared reliable. Thus, teacher observation instruments have a very good level of internal consistency and are suitable for use in the collection of research data.

Shapiro Wilk Normality Test Results Table

Tests of Normality

	Kolmogorov-Smirnova			Shapiro-Wilk		
	Statistic	df	Itself.	Statistic	df	Itself.
PretestKontrol	.271	23	.000	.681	23	.000
PosttestKontrol	.281	23	.000	.795	23	.000
PretestExperiments	.272	23	.000	.881	23	.011
PosttestExperiment	.177	23	.059	.859	23	.004

a. Lilliefors Significance Correction

Every data set, including the control and experimental classes' pre- and post-tests, had a significance value below 0.05 according to the Shapiro-Wilk normality test. The data does not follow a normal distribution, as this shows. Because of this, a non-parametric test, the Mann-Whitney U test, is employed to compare the impact and differences between the control and experimental groups, as opposed to the independent t test that was used in the research methodology chapter.

Descriptive Test Results Table

Descriptive Statistics

	N	Minimum	Maximum	Mean	Hours deviation	of
PretestKontrol	23	40	90	82.17	11.661	
PosttestKontrol	23	50	100	83.91	18.522	

PretestExperiments	24	40	100	80.83	15.581
PosttestExperiment	24	30	100	81.67	18.805
Valid N (listwise)	23				

Pretest scores for the control group ranged from 40 to 90 out of a possible 100, with an average of 82.17 and a standard deviation of 11.66, according to the descriptive analysis. With a standard deviation of 18.52 and a range of scores between 50 and 100, the average score in the control class posttest rose somewhat to 83.91. On the other hand, the experimental class's pretest scores ranged from 40 to 100, with an average of 80.83 and a standard deviation of 15.58. The experimental class's posttest scores ranged from 30 to 100, with an average of 81.67 and a standard deviation of 18.80, after their treatment utilizing the Flipped Classroom methodology.

T Test Results Table (*Mann Whitney*)

Descriptive Statistics

	N	Mean	Hours of deviation	Minimum	Maximum
NilaiPosttest	47	82.77	18.498	30	100
Class	47	1.51	.505	1	2

Students' scores varied considerably from one another, with a standard deviation of 18.498 and an average posttest score of 82.77 according to the descriptive analysis. There were 47 pupils in the class, and the range of scores on the posttest ranged from 30 to 100. The class variable had an average value of 1.51, which indicates that the data came from two groups, namely class 1 (control) and class 2 (experiment) with a relatively balanced distribution. The results suggest that the students' final ability after learning is in the range of sufficient to very good. To determine if there is a significant difference in learning outcomes between the control and experimental classes, an inferential statistical test (Independent Samples t-test) will be conducted.

Mann-Whitney Test

Ranks

	Class	N	Mean Rank	Sum of Ranks
NilaiPosttest	Control	23	25.13	578.00
	Eksperimen	24	22.92	550.00
	Total	47		

The experimental group had an average rank value of 22.92 with a total rank of 550.00, in contrast to the control group's average rank value of 25.13 with a Sum of Ranks of 578.00, as determined by the Mann-Whitney U Test. This disparity in GPAs demonstrates, by non-parametric analysis, that the experimental class had somewhat lower posttest results than the control class. Whether we want to know whether the difference is statistically significant, we need to know the U, Z, and Asymp values. Significance (two-tailed) on the subsequent Mann-Whitney table. A p-value greater than 0.05 indicates that the experimental group did not significantly outperform the control group in terms of learning outcomes. Conversely, a significant difference between the two groups is shown if the p value is less than 0.05.

Test Statisticsa

	NilaiPosttest
Mann-Whitney U	250.000
Wilcoxon W	550.000
Z	-.570
Asymp. Sig. (2-tailed)	.569

a. Grouping Variable: Kelas

The posttest value between the control and experimental classes was compared using a Mann-Whitney U test, which yielded a 250,000, a Z-value of -0.570, and an Asymp. Sig. (2-tailed) value of 0.569. With a significance value of $0.569 > 0.05$, H_0 was accepted and H_1 was denied, indicating that the control and experimental classes did not vary significantly in their posttest learning outcomes. According to these findings, there was no discernible change in learning outcome scores between the experimental and control classes when comparing the two learning models. As a result, when compared to more traditional forms of education, the Flipped Classroom approach has failed to significantly improve students' ability to learn.

The discussion of the results of this research is prepared to directly answer the three problem formulations that have been formulated in the introduction. The entire analysis process is preceded by instrument quality testing. The results of the validity and reliability test showed that all items of the instrument in the initial, core, and closing activities were in the category of feasible and consistent, shown through *the calculated r* value that exceeded the *r of the table* and Cronbach's Alpha value which was far above the minimum limit of 0.70. This condition ensures that the instrument used is able to measure research variables precisely and accurately so that it can be accounted for in answering the formulation of research problems.

1. Relevance to the First Problem Formulation

"How is the application of the Flipped Classroom learning model to the fourth grade Indonesian subject at MIS Hidayatul Muhajirin?"

The research-based Flipped Classroom model has been implemented by adhering to the central tenet of learning, which is to provide introductory materials outside of class through digital media and then to discuss and reinforce concepts during in-person instruction. Descriptive analysis, however, revealed that experimental class students' scores only marginally improved (from 80.83 to 81.67). It seems that the model's implementation has not been to perfection. Factors such as students' readiness for independent learning, limited technological devices, and teachers' adaptation to new learning models are suspected to have influenced the effectiveness of the implementation of *Flipped Classroom* in the school environment.

Thus, the application of *Flipped Classroom* in this study can be said to be carried out, but its effectiveness has not shown maximum achievements.

2. Relevance to the Second Problem Formulation

"What are the learning outcomes of students after the implementation of the Flipped Classroom learning model?"

The results showed that the posttest score in the experimental class only experienced a marginal increase compared to the pretest score. The average increase that occurred did not show a significant change academically. This illustrates that after the implementation of *Flipped Classroom*, students' learning outcomes did not experience a substantial improvement.

These findings indicate that even though students have followed the learning process with the *Flipped Classroom model*, the impact on learning outcomes has not been seen strongly. Most likely, these results are

influenced by the level of discipline of students in learning pre-learning materials, as well as the suitability of digital materials with students' learning needs.

3. Relation to the Formulation of the Third Problem

"Is there an influence of the *Flipped Classroom* learning model on student learning outcomes?"

Since the data did not follow a normal distribution, the third problem's formulation necessitated the use of the Mann-Whitney U non-parametric test for hypothesis testing. There was no statistically significant difference in the results of the experimental and control groups' learning, as the achieved significance value was 0.569 (> 0.05). According to fourth graders in Indonesia did not see a statistically significant improvement in their learning results after using the *Flipped Classroom* concept.

The difference between the results of this study and some of the previous findings can be understood through a number of factors, such as technology readiness, students' ability to learn independently, and teachers' competence in facilitating *Flipped Classroom-based* learning. In addition, the characteristics of Indonesian materials that require a lot of practice of speaking and presentation skills also require intensive mentoring, which cannot always be obtained through video-based self-learning.

Overall, the results show that:

1. The *Flipped Classroom model* has been implemented, but its implementation effectiveness is still limited.
2. There were no significant improvements seen in the learning outcomes of pupils after the model's deployment; there was only a little rise.
3. In comparison to traditional learning, the *Flipped Classroom* methodology does not significantly impact student learning results.

Thus, the results of this research can be the basis for further development related to student readiness, quality of pre-learning materials, and support for technological devices so that the implementation of *Flipped Classroom* can have a more optimal impact in the future.

CONCLUSION

Based on the results of research carried out on grade IV students at MIS Hidayatul Muhajirin Palangka Raya, the conclusion of this study was prepared by referring to three problem formulations, namely the application of the *Flipped Classroom model*, learning outcomes after the application of the model, and the influence of the model on student learning outcomes.

First, regarding the application of the *Flipped Classroom learning model*, the results of observation and learning implementation show that the model has been applied according to its characteristics, namely the provision of materials through learning videos to be learned at home and the use of face-to-face time for discussions, exercises, and strengthening understanding. However, the effectiveness of its implementation is not optimal because it is influenced by students' readiness in independent learning, access to learning tools, and teachers' adaptation in managing non-conventional learning models.

Second, with regard to learning outcomes after the implementation of the *Flipped Classroom* model, the descriptive analysis showed an increase in the value of the experimental class, but the improvement was very limited and did not show a substantial change. This indicates that the learning outcomes of students do not experience a significant increase after learning with the model is applied.

Third, regarding the influence of the *Flipped Classroom* model on student learning outcomes, the results of the Mann-Whitney U test showed a significance value of 0.569 (> 0.05), which means that there was no significant difference in learning outcomes between the experimental class and the control class. Thus, statistically, the *Flipped Classroom* model does not have a significant influence on the Indonesian learning outcomes of grade IV students.

Although the effect is not yet statistically significant, the *Flipped Classroom* model still has the potential as an innovative alternative learning strategy. This model provides opportunities for students to build learning independence through pre-learning activities while maximizing collaboration and face-to-face discussions. Previous

research findings, as reported by Chen et al. (2017) and Karabulut-Ilgu et al. (2018), also suggest that *Flipped Classroom* can improve motivation, interaction, and learning readiness. Therefore, with the support of adequate facilities, student readiness, and more structured learning planning, the *Flipped Classroom* model remains relevant to be optimized in Indonesian learning at the elementary school level.

REFERENCE

- Al-Qur'an, L. P. Mushaf. (2022). *The Qur'an of the Ministry of Religion*. Government department Religion of the Republic of Indonesia. <https://quran.kemenag.go.id/>
- Ali, M. (2020). Learning Indonesian language and literature (Basastra) in elementary schools. *Perknick: Journal of Early Childhood Education*, 3(1), 35–44. <https://doi.org/10.31851/pernik.v3i2.4839>
- Ulfah, A. K., Razali, R., Rahman, H., Ghofur, A. U., Bukhory, Wahyuningrum, S. R., Yusup, M. R. I., & Muqoddam, F. (2022). *Variety of research data analysis (literature, research and development)* (D. Anggreni, Ed.). STIKes Majapahit Mojokerto Publisher.
- Apriyanah, P. (2018). The effectiveness of the *flipped classroom model* in physics learning is reviewed from the student's self-efficacy and mastery of concepts. *World Development*, 1(1).
- Arbayu, R., Rizal, S. U., & Mahmudah, I. (2023). The use of reading corners to improve the reading skills of grade IV students of SDN Pilang. *Journal of Education*, 4(1), 445–452.
- Arifani, S. (2021). The relationship between the intensity of watching Islamic da'wah shows on social media and the religious attitude of students of the PAI Study Program IAIN Palangka Raya [Thesis, IAIN Palangka Raya].
- Asyafah, A. (2019). Considering learning models (Theoretical-critical study of learning models in Islamic education). *Tarbawy: Indonesian Journal of Islamic Education*, 6(1), 19–32. <https://doi.org/10.17509/t.v6i1.20569>
- Amalia, A. N., & Suyono, R. A. (2023). *Preparation of research instruments: Concepts, techniques, validity tests, reliability tests, and examples of research instruments*.
- Istofany, B., Ratu, H., Negara, P., & Santosa, F. H. (2024). Analysis of the use of technology in mathematics learning to improve critical thinking skills in students. *Ulul Albab*, 28(1), 1–14.
- Darmawati, N. W. S. (2022). An innovative Indonesian learning model based on *flipped classroom* in the digital era with the use of Google Classroom. *Journal of Indonesian Language Education and Learning*, 11(2), 168–177.
- Dewi, N. P. S. S., Padmadewi, N. N., & Santosa, M. H. (2021). The implementation of *flipped classroom* model in teaching English to junior high school students. *Journal of Educational Research and Evaluation (WATCH)*, 5(1), 125–135. <https://ejournal.undiksha.ac.id/index.php/JERE>
- Fian, K. (2022). *Flipped classroom* on the learning achievement of PAI Islamic religious education study program [Thesis, UIN Prof. K.H. Saifuddin Zuhri].
- Fitzgerald, I. (2016). The cooperative learning model and its implications on the understanding of science learning in SD/MI (PTK Study in grade III MIN 3 Wates Liwa, West Lampung). *Journal of Basic Education and Learning*, 3(2), 4–10.
- Frimayanti, A. I. (2017). Implementation of value education in Islamic religious education. *Al-Tadzkiyyah: Journal of Islamic Education*, 8(2), 240–250.
- Habsyi, F. Y. (2020). The influence of learning facilities on the learning achievement of students of Nusantara Taurus High School. *Journal of Education and Economics*, 2(1), 13–22.
- Hastri, R., Wardarita, R., Fitriani, Y., & Rukiyah, S. (2022). The contribution of Pancasila student profiles to Indonesian language learning phase D of the independent curriculum. *Proceedings of the National Seminar on Education, University of PGRI Palembang*, 1, 91–101.
- Hendracita, N. (2021). *Learning models*. Multicreation.
- Hidayati, N. (2017). The application of cooperative learning with experimental methods and talking stick methods on students' learning motivation and critical thinking skills. *Journal of Education*, 14(1).
- Inggriyani, F., & Maulani, R. (2020). Analysis of the speaking skills of elementary school students through a

- numbered heads together (NHT) type cooperative learning model. *Lemlit Press*, 1(1), 35–57.
- Iqbal, Anwar, S., Maliki, M., & Sari, R. (2022). Curriculum and education (Freedom of Learning from the perspective of Arthur W. Combs's humanism). *Journal of Education*, 10(2), 1–15.
- Khoerunnisa, P., & Aqwal, S. M. (2020). Analysis of learning models. *Fondatia*, 4(1), 1–27.
- Kurniawati, P. (2017). Realizing learning independence: Freedom of learning is the key to the success of distance learners. *Nusantara University PGRI Kediri*, 1.
- Marlina. (2022). The urgency and implications of the implementation of the independent curriculum in elementary schools/madrasah ibtidaiyah. *Journal of Education*, 1(1), 67–72.
- Masruri, M. H. (2019). Design a multicultural-based Islamic cultural history learning model in higher education. *J-PAI: Journal of Islamic Religious Education*, 6(1), 57–67.
- Maulfani, C. P., Rahmad, & Sulistyowati. (2023). Assistance in reading activities for third grade students of SDN Pilang 1 through IAIN Palangka Raya student service activities. *Dikmas: Journal of Community Education and Service*, 3(1), 113–118. <http://dx.doi.org/10.37905/dikmas.3.1.113-118.2023>
- Mujiono, N. (2021). *Flipped classroom*: School without homework. *Journal of Technology*, 25(1), 67–74.
- Ndruru, M., Telaumbanua, F., Harefa, A., & Lase, E. (2024). The effect of the *flipped classroom* learning model on students' mathematical problem-solving skills. *Journal of Mathematics Education*, 4(4), 244–254.
- Nugraha, E., & Azis, A. (2023). Indonesian Junior High School Grade VII. *National Seminar on Education*.
- Rachman. (2022). Measuring the improvement of cognitive learning outcomes with the *flipped classroom* learning model. *Journal of Education*, 12(1), 13–36.
- Ramadhani, R., & Syahputra, E. (2023). *Ethno-flipped classroom model: Flexible and meaningful learning solutions* (R. Fadhli, Ed.). Indonesia Emas Group.
- Ramah, P., Family, L., Ayat, S. A., Samsul, M., & Hasan, I. A. (2024). Child-friendly education in the family environment in Surah Al-Baqarah verse 133. *Journal of Islamic Education*, 815–825.
- Roflin, E., & Pariyana, I. A. L. (2021). *Populations, samples, variables in medical research* (M. Nasrudin, Ed.). PT. Expanding Management.
- Safithry, E. A. (2018). *Assessment of test and non-test techniques* (C. I. Gunawan, Ed.; 2018 edition). CV IRDH.
- Sari, I., & Hamami, T. (2022). Development of the *flipped classroom method* in Islamic religious education: Learning solutions during the Covid-19 pandemic. *Educational: Journal of Education*, 4(4).
- Sari, M., Anggoro, B. S., & Sugiharta, I. (2020). Analysis of improving problem-solving skills and learning independence impact of *flipped classroom* with the help of learning videos. *Nabla Dewantara: Journal of Mathematics Education*, 5(2), 94–106.
- Savitri, O., & Meilana, S. F. (2022). The influence of the learning model *flipped classroom* to the understanding of science concepts of elementary school students. *Basicedu Journal*, 6(4), 7242–7259. <https://doi.org/10.31004/basicedu.v6i4.3457>
- Simarmata, M. Y., Yatty, M. P., & Fadhillah, N. S. (2022). Analysis of speaking skills through a project to strengthen the profile of Pancasila students at SMP Negeri 1 Kuala Mandor B. *Vox Education: Scientific Journal of Education*, 13(1), 47–59.
- Widodo, S., Ladyani, F., Rusdi, K., Khairunnisa, S. M. P., & Lestari, A. D. (2023). *Research method textbook*.
- Suhartono, & Indramawan, A. (2022). Implementation of the *flipped classroom* model in developing students' speaking skills. *Journal of Indonesian Language and Literature Education*, 12(1), 1–20.
- Susilawati, D. (2018). *Tests and measurements* (I. Safari, Ed.). Upside down Press.
- Syafaruddin. (2012). *Educational innovation: An analysis of new education policies*.
- Ulfah, & Arifudin, O. (2021). The influence of cognitive, affective, and psychomotor aspects on student learning outcomes. *Al-Amar Journal (JAA)*, 2(1), 1–9.
- Wahyuni, L., Salingkat, S., Tamagola, R. H. A., Palayukan, H., Haidar, I., & Sitopu, J. W. (2024). Analysis of the success of the implementation of the *flipped classroom* model in mathematics learning at the university level. *Journal on Education*, 6(4), 18954–18964.

- Wartoyo, F. X. (2022). Measuring the correlativity of Freedom of Learning with the national education system Law Number 20 of 2003 and Pancasila. *Legal Institutions: Journal of Legal Studies and Research*, 4(2), 140–153.
- Wibowo, I. S., & Farnisa, R. (2018). The relationship between the role of teachers in the learning process and the learning achievement of students. *Journal of Basic Education*, 3(2), 181–202.
- Widana, M. I. W., & Fiktorius, T. (2020). *Test the requirements of the analysis*.
- Widodo, L. S., Prayitno, H. J., & Widyasari, C. (2021). Independence of learning mathematics for elementary school students through online with a *flipped classroom* learning model. *Journal of Basicedu*, 5(5), 3902–3911.
- Winarno, A., & Ramadhani, Z. (2022). The learning outcomes of vocational school students use Android-based iSpring Suite 9. *Education: Journal of Education*, 20(1), 96–109.
- Yeni, D. F., Putri, S. L., & Setiawati, M. (2022). The influence of student learning motivation on the learning outcomes of SMP N 1 X Koto students above. *Promotion (Journal of Economic Education)*, 10(2), 133–140.
- Patandean, Y. R., & I. R. E. (2021). *Flipped classroom* makes students think critically, creatively, independently and be able to collaborate in responsive learning. *Journal of Education*, 1.