Journal of Facilitating Learning and Improving Performance
Vol 1, No 1, Maret 2026, pp. 56-66
https://doi.org/10.17977/jflip.vxxix.xxxx
pISSN: XXXX-XXXX (print) eISSN: XXXX- (online)
https://ejournal.psthi.or.id/index.php/JFLIP/index

MODEL USAGE CONTEXTUAL FLIPPED GROUP CLASSROOM IMPROVES UNDERSTANDING OF CONCEPTS

Nadia Naradila Nindita[1*], Citra Kurniawan[2]
[1 2]*Teknologi Pendidikan, Universitas Negeri Malang, Kota Malang, Jawa Timur, Indonesia*
**Email corresponding author:* nadia.naradila.2201216@students.um.ac.id

Article Info

Article history:
Received 17-02-2026
Revised 24-02-2026
Accepted 13-02-2026
Published 28-03-2026

How to cite: Nindita, N. N., & Kurniawan, C. (2026). Model Usage Contextual Flipped Group Classroom Improves Understanding of Concepts. *Journal of Facilitating Learning and Improving Performance, 1*(1), 56–66.

Abstract

Science education at the junior high school level still faces challenges in improving students' conceptual understanding, particularly regarding the classification of living organisms, which is still taught through rote memorization. Therefore, a learning model is needed that can encourage active student engagement and connect the material to real-life contexts. This study aims to determine the difference in students' conceptual understanding before and after the implementation of the Contextual Flipped Group Classroom model on the topic of the classification of living organisms. The scope of the study is focused on science learning at the junior high school level, specifically on improving students' conceptual understanding at the C2 cognitive domain level in Class VII-E at SMP Negeri 5 Tuban. The study employed a quantitative approach with a pre-experimental One-Group Pretest-Posttest design. The research subjects consisted of 32 students selected through purposive sampling. The research instrument was a multiple-choice test that had been validated and had its reliability tested. Data analysis was conducted using descriptive statistics, a normality test, a Paired Sample T-Test, and an N-Gain test. The results of the study indicate a difference in students' conceptual understanding before and after the implementation of the learning model, as evidenced by differences in pretest and posttest scores. Additionally, the N-Gain test results fell into the moderate category. These findings suggest that the implementation of the Contextual Flipped Group Classroom model is capable of supporting more meaningful, contextual, and adaptive learning.

Keywords: *Contextual Flipped Group Classroom; Conceptual Understanding; Science.*

INTRODUCTION

The development of education in the 21st century requires learners not only to master factual knowledge, but also to have the ability to understand concepts deeply so that they can connect theoretical knowledge with its application in the context of daily life. Understanding concepts is not only seen as an activity of remembering information, but as a process of building meaning through the ability to interpret, classify, compare, and explain phenomena systematically and logically. In the context of science learning in junior high school, the ability to understand concepts is a very important aspect, especially in the material of classification of living things that are conceptual and require skills in systematically identifying similarities and differences in characteristics.

However, the situation in the field shows that the understanding of learners' concepts is still relatively low. The application of learning in schools is still much centered on learners and emphasizes more on memorization. According (Janah & Hidayati, 2025) stating that learning is still lecture-oriented causes learners to find it difficult to relate concepts to real-life contexts, so that the understanding formed still tends to be less deep. Another finding also found that in physics material there are still misconceptions that arise because the learning carried out emphasizes more on the problem-solving procedure than on the conceptual understanding (Iswanto et al., 2022). Other research also shows that learners' understanding of mathematical concepts is still low because they are not able to connect various concepts internally or externally, so that the knowledge structure formed has not been fully integrated (Fauziah et al., 2021). In chemistry, research conducted by (Astuti & Marzuki, 2017) reveals that misconceptions can occur because the application in learning has not focused on the process of constructing meaning in depth. These various studies show that the problem of understanding concepts is cross-subject and requires innovation in learning that is able to encourage active involvement of learners while also facilitating the process of building knowledge.

One of the innovative learning models to answer these challenges is the Contextual Flipped Group Classroom model. This model is a learning model that integrates flipped learning, group learning, and approaches Contextual Teaching and Learning (CTL) in a structured learning unit. Research (Savitri & Meilana, 2022) prove that the application of the model flipped classroom In science learning at the elementary school level, it has a significant influence on concept understanding because it provides opportunities for learners to learn independently and repeat the material according to needs. Findings made Shawn & Shawn (2022) It also found that there was an increase in conceptual understanding of thermochemical materials through the application of flipped classroom, because the activities in the classroom are more focused on in-depth analysis and discussion. However, in practice flipped classroom often places more emphasis on the use of technology and learning independence, so it does not fully guarantee the formation of meaningful learning when not combined with an approach that emphasizes contextual interconnectedness.

One of the important components of the model Contextual Flipped Group Classroom (CFGC) is an approach Contextual Teaching and Learning (CTL). This approach emphasizes the relationship between the learning material and the learner's real-life context through principles such as constructivism, inquiry, Learning Community,

reflection, and authentic judgment. Research (Rofingatun & Putri, 2025) shows that the application of CTL is able to create a more meaningful learning experience because the material is connected to the context of daily life, making it easier for learners to understand and remember concepts. CTL has a positive influence on concept understanding because learning is structured based on the learner's real experience so that the process of building knowledge takes place more effectively (Mu'min et al., 2025). CTL is also effective in improving learning outcomes through activities Problem solving that encourages the ability to think critically (Wahyudi, 2020). In addition, the CTL approach also has a significant impact on the long-term understanding of science concepts which shows that meaningful learning contributes to stronger memory (Pacaci et al., 2024).

Although in various studies it has proven its effectiveness flipped classroom and CTL separately in improving concept understanding, studies that integrate flipped learning, group learning, and CTL approaches in one complete learning model are still relatively limited. Research (Paristiowati et al., 2019) states that learning with contextual flipped classroom Able to improve science literacy skills because learning does not only focus on results, but gains knowledge through more meaningful learning experiences. Meanwhile, according to (Nasrah et al., 2024) stating that there is a positive tendency for integration to the cognitive aspect. Based on this description, research that integrates Flipped Learning, group learning, and CTL principles in the model Contextual Flipped Group Classroom (CFCG) on the material of classification of living things and testing them at the cognitive level of understanding (C2) is still not widely done. The novelty in this study lies in the incorporation of the approach in a structured manner in one complete learning design and its empirical testing of improving the understanding of learners' concepts at the junior high school level.

The problem in this study is motivated by the demand for learners to be able to understand concepts in depth and relate to the context of real life, especially in the classification of living things, while learning practices in the classroom are still dominated by lecture and memorization methods. This condition causes the learner's understanding of concepts to not develop optimally and many misconceptions are still found. The main question to be answered is whether there are differences in learners' understanding of concepts before and after the implementation of the Contextual Flipped Group Classroom (CFGC) model. The hypothesis in this study is that the average understanding of learners' concepts after participating in learning with the Contextual Flipped Group Classroom (CFGC) model is significantly higher than before treatment, as reflected in the results of pre-posttest. In line with these problems and scientific novelties, the purpose of this study is to find out the difference in learners' understanding of concepts before and after the application of the Contextual Flipped Group Classroom (CFCG) mode.

METHODS

This study uses a quantitative approach with the One Group Pretest-Posttest Design research design. This design was chosen because it allowed researchers to compare learners' understanding of concepts before and after the application of the Contextual Flipped Group Classroom (CFCG) model. In the initial stage, learners are

given a pretest to measure their initial abilities, then continue with treatment in the form of learning using the Contextual Flipped Group Classroom (CFCG) model. After the treatment, learners are given a posttest to find out the level of understanding of concepts after learning. The flow of the implementation of the research is shown in Figure 1.

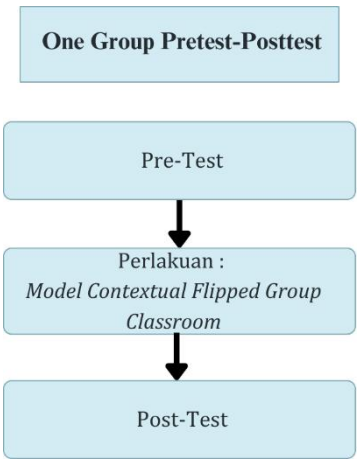

Figure 1. One Group Pretest-Posttest Research Design

The subjects in this study consisted of 32 learners in grade VII-E at SMP Negeri 5 Tuban which were determined through purposive sampling techniques. The selection of classes in this study was carried out based on certain considerations, namely suitability with the characteristics of relatively homogeneous academic abilities based on information from the subject teachers, as well as the readiness of the class to support the application of the Contextual Flipped Group Classroom (CFCG) model.

The research instrument used was in the form of a multiple-choice test that was compiled based on concept understanding indicators. The test consists of two tests, namely pretest and posttest. The pretest is carried out before the learning process begins to maintain the initial knowledge of the learners. Meanwhile, the posttest was given after the application of the Contextual Flipped Group Classroom (CFCG) model to measure the improvement of learners' concept comprehension ability. Before being used in research, the instrument was first tested with the aim of obtaining information about the level of validity and reliability of each question item. The test data will then be analyzed using IBM SPSS Statistics 20 software to determine how many questions meet the validity criteria and ensure consistency of reliability before being used in the study.

The data collection procedure is carried out through several systematic stages. First, learners will be given pretest questions to identify the initial ability to understand concepts before the treatment is applied. Furthermore, the learning process is carried out using the Contextual Flipped Group Classroom (CFCG) model. In this stage, learners learn the material independently before the implementation of face-to-face learning, then activities in the classroom are more focused on discussion, problem solving, and association of concepts with the context of daily life. After all series in learning are completed, learners will be given a posttest. The purpose of the posttest is to measure the improvement of concept understanding after the learning strategy is applied. The

entire learning process was carried out for eight meetings which referred to the Learning Implementation Plan (RPP) that had been systematically prepared.

The data analysis in this study was carried out through several systematic stages. Before the hypothesis test is carried out, the analysis prerequisite test is a normality test first to ensure that the data obtained is normally distributed so that it can meet the basic assumptions in the parametric test. The fulfillment of this assumption is important so that the test results can be interpreted appropriately and have adequate validity.

Hypothesis testing was carried out using the Paired Sample T-Test to find out whether or not there was a significant difference between pretest and posttest scores after being treated in the form of the application of the Contextual Flipped Group Classroom (CFCG) model. In addition, the N-Gain test is used to measure the level of improvement in learners' understanding of concepts after learning takes place. The N-Gain test aims to determine the effectiveness of improving learning outcomes based on the difference in scores before and after treatment.

Through this series, this study provides a comprehensive overview of the effectiveness of the application of the Contextual Flipped Group Classroom (CFCG) model in improving learners' understanding of concepts. With a systematic research design, subjects, instruments, procedures, and data analysis techniques, this research is expected to be able to provide concrete evidence that supports the development of innovative and contextual model-based learning in the school environment.

RESULTS

The results of the analysis in this study show that there is a difference between pretest scores and posttest scores after the application of the Contextual Flipped Group Classroom (CFCG) model. This finding is based on data obtained from research instruments that have gone through the testing stage first. Before being used in research, test instruments are tested using their validity and reliability tests. The results of the validity test showed that all question items had a correlation coefficient greater than the r-table value, so it was declared valid. Furthermore, the reliability test using Cronbach's Alpha obtained a value above 0.70 indicating that the instrument had good consistency. So that the concept understanding test can be declared feasible to be used as a measuring tool in research.

Before the hypothesis test is carried out, the data must first be analyzed with a prerequisite test. The normality test was carried out using Shapiro-Wilk because the sample count was less than 50 respondents. The results of the normality test showed that the significance value of the pretest and posttest was greater than 0.05. So it can be concluded that the data is distributed normally. With the normality test met, the analysis can be continued using parametric tests.The hypothesis test was carried out using the Paired Sample T-Test to find out the difference in pretest scores and posttest scores in the same group.

Table 1. Paired Sample T-Test Results

	Paired Differences					t	df	Sig (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of The Difference				
				Lower	Upper			
Pair 1 Pre test – Post test	30.625	12.811	2.265	-35.244	26.006	13.523	31	.000

Based on table 1 above, the results of the Paired Sample T-Test show that the significance value (Sig. 2-tailed) is 0.000 which is smaller than 0.05. This shows that there is a significant difference between pretest scores and posttest scores after the implementation of the Contextual Flipped Group Classroom (CFCG) model. Thus, an alternative hypothesis is accepted, so it can be concluded that the application of the Contextual Flipped Group Classroom (CFCG) model has a significant effect on improving learners' understanding of concepts.

In addition, the N-Gain test was carried out to determine the level of effectiveness of improving learning outcomes. The results of the analysis showed that the average N-Gain score was 0.5022 which was in the medium category, thus showing that the applied learning model was quite effective in improving learners' understanding of concepts. This improvement shows that learning that combines self-study activities before face-to-face with contextual reinforcement of concepts in the classroom is able to encourage learners to understand the material more deeply.

Overall, the results of this study prove that the use of the Contextual Flipped Group Classroom (CFCG) model is an effective learning strategy in improving conceptual understanding in the classification of living things. This model not only emphasizes the delivery of material, but also provides space for learners to learn independently, discuss actively, and apply concepts to the context of daily life. Therefore, learning becomes more meaningful, participatory, and in accordance with learning in the 21st century.

DISCUSSION

The results of this study show that there is a significant difference between learners' understanding of concepts before and after the application of the Contextual Flipped Group Classroom (CFGC) model. This is evidenced by the results of the Paired Sample T-Test which showed that the significance value was less than 0.05. So that the alternative hypothesis (H1) is accepted. Descriptively, there was an increase in the average score from 37.34 in the pretest score to 67.97 in the posttest score. In addition, the results of the N-Gain test showed a value of 0.5022 which was in the medium category, which showed that the improvement in concept understanding was at a fairly good level of effectiveness. These findings show that the use of the Contextual Flipped Group Classroom model makes a positive contribution to improving learners' understanding of concepts in the classification of living things.

Theoretically, the results of this study are in line with the characteristics of the model Contextual Flipped Group Classroom that integrates flipped learning with an emphasis on reversing the learning flow of the teacher-centered become Student-centered (Bergmann & Sams, 2012). In this model, learners are required to study the

material independently with the help of digital media before face-to-face learning takes place. This condition allows learners to have initial readiness for the concepts to be learned in class. When entering face-to-face sessions, learning time can be maximized for discussion, clarification of concepts, problem solving, and strengthening understanding. This model is part of a combination of asynchronous and synchronous learning systematically, providing flexibility as well as more active learning interactions (Gawise et al., 2021). This flexibility can provide space for learners to strategize as needed, as well as to improve their initial readiness before learning takes place (Phan, 2025). This model reverses the pattern of face-to-face learning by giving learners the opportunity to learn the material before the learning takes place, then deepening understanding through group discussions and contextual activities during face-to-face.

The increase in conceptual understanding in this study can also be explained through the theory of constructivism. In this theory, knowledge is actively constructed by learners through interaction with the environment and learning experiences (Series, 2020). Models CFGC provide space for learners to make initial construction of knowledge during independent learning, then strengthen and revise that understanding through group discussions and collaborative activities in the classroom. This process allows for the gradual assimilation and accommodation of concepts, so that the understanding formed can be more meaningful and not just memorized.

In addition, the Contextual Teaching and Learning (CTL) which is part of the CFGC model further strengthens the quality of learning. CTL emphasizes more on the relationship between learning materials and the context of learners' daily lives (Afriani, 2018). Other research findings also confirm that real-world context-based learning is able to increase the relevance of the material and the active involvement of learners (Hasudungan, 2022). Other research has also proven that the CTL approach can significantly improve understanding of mathematical concepts (Fitria et al., 2024). In addition, according to (Syaifuddin et al., 2021) stated that the application of CTL to learning at the secondary school level can improve active participation and learning outcomes. The consistency in the findings reinforces that the CTL approach plays an important role in deepening the understanding of the concept.

Conceptually, the improvement of understanding in this study is in accordance with the indicator of cognitive level of understanding (C2) in the revised Bloom taxonomy, namely the ability to interpret, classify, compare, and explain concepts in various contexts (Anderson & Krathwohl, 2001). If analyzed based on the concept understanding indicator, the improvement that occurred was not only seen in the ability to remember the characteristics of the five kingdoms, but also in the ability to classify living beings based on certain characteristics and determine groups using the key of simple determination. Learning activities based on group discussions and Problem solving The face-to-face phase provides an opportunity for learners to practice these indicators of understanding. Thus, learning does not only stop at the stage of receiving information, but also develops towards processing and applying concepts.

The suitability of the learning approach with the characteristics of the classification material is also a supporting factor in improving the understanding of concepts in this study. The material of classification of living things basically requires analytical skills. However, in learning practices that still use the rote system, there are

still many misconceptions and superficial understandings. Learners tend to only recall separately without understanding the conceptual relationships in the material. This condition causes difficulties when they are faced with a different classification case than the given example. In this study, the application of group discussions and simple case studies was proven to help learners build a more systematic understanding of the classification of living things (Yona & Ilhami, 2022). Through these activities, learners not only memorize characteristics, but learn to identify the basis of grouping, compare the characteristics of organisms, and test the classification decisions they make. This process encourages the formation of a more organized conceptual structure and reduces the potential for misconception.

In the context of technology-based learning, there is research that states that adaptive and structured digital learning can improve understanding when adjusted to the characteristics of learners (Kurniawan et al., 2025). This shows that Models CFGC It needs to be supported by a mature instructional design so that its impact can be optimized. This systematic and mature integration between technological and pedagogical aspects ultimately contributes to a more optimal understanding of concepts.

The findings of this study are in line with the results of previous studies which showed the influence of flipped classroom in improving the understanding of concepts. (Muktiadji et al., 2026) found that application flipped classroom as one of the components in CFGC significantly improves conceptual understanding compared to traditional learning models, especially when it is adapted to be innovative. Other findings also prove to improve learners' ability to understand concepts through the application of flipped classroom as one of the components in CFGC in algebraic material (Sinaga et al., 2025). This shows that the model has flexibility in a variety of subjects.

The results of this study are also supported by the findings of previous research which show that the flipped classroom and the CTL approach has a positive influence on the understanding of concepts. Research conducted by (Savitri & Meilana, 2022) shows that flipped classroom able to improve the understanding of science concepts because learners have the opportunity to study the material independently before class discussions. The findings of this study are in line with the results of the study which show that the application of the flipped classroom In thermochemistry materials, it is able to significantly improve concept understanding when compared to face-to-face learning. The similarity in the tendency of these results strengthens the opinion that the application of learning with a reverse flow provides a wider opportunity to optimize interactions in the classroom, so that learners are more likely to optimize interactions in the classroom, so that learners are more effective and understand concepts more deeply (Stuart & Scott, 2022). In line with other studies that prove that integration flipped classroom with CTL has positive potential in improving understanding of concepts, thus supporting the results of this research.

Therefore, the discussion in this study shows that increasing understanding of concepts is an integration between flipped learning, group learning and the CTL approach in the Contextual Flipped Group Classroom model. Flipped classroom provides flexibility and early readiness for learning, while CTL provides contextual meaning and relevance to the concepts being learned. The combination of the two creates more

active, reflective, and understanding-oriented learning. Thus, the application of the Contextual Flipped Group Classroom model can be a strategic alternative in improving the quality of science learning, especially in the classification of living things.

CONCLUSION

Based on the results of the research and data analysis carried out, it can be concluded that the application of the Contextual Flipped Group Classroom (CFGC) model to the classification material of living things significantly improves the understanding of learners' concepts. Before the treatment, the level of understanding of the concept was not optimal, but after the application of the model there was a clear improvement, which was evidenced by the difference in pretest and posttest scores as well as the results of the N-Gain test whose results were included in the medium category. Thus, the research hypothesis that states that there is a difference in conceptual understanding before and after the application of the Contextual Flipped Group Classroom (CFCG) model is accepted, as well as the purpose of the research to determine the influence of the CFCG model is achieved. These findings confirm that the integration of flipped learning, group learning, and CTL principles in the Contextual Flipped Group Classroom (CFCG) model is able to create more participatory, meaningful, and contextual learning so that learners' understanding of concepts becomes more in-depth and applicative. For further research, it is suggested that this model be applied to other materials and different levels of education, and to further examine its influence on other aspects such as learning motivation, critical thinking skills, and collaboration skills, so as to expand its contribution to the development of innovative learning strategies in various educational contexts.

REFERENCE

Afriani, A. (2018). Pembelajaran kontekstual (cotextual teaching and learning) dan pemahaman konsep siswa. *Jurnal Muta'aliyah*, *1*(1), 225006.

Anderson, L. W., & Krathwohl, D. R. (2001). *A taxonomy for learning, teaching, and assessing: A revision of Bloom's taxonomy of educational objectives: complete edition*. California: Addison Wesley Longman, Inc.

Astuti, R. T., & Marzuki, H. (2017). Analisis kesulitan pemahaman konsep pada materi titrasi asam basa siswa SMA. *Orbital: Jurnal Pendidikan Kimia*, *1*(1), 22-27. https://doi.org/10.19109/ojpk.v1i1.1862

Bergmann, J., & Sams, A. (2012). *Flip Your Classroom: Reach Every Student in Every Class Every Day* (pp. 120-190). Washington DC: International Society for Technology in Education.

Fauziah, S. R., Rismen, S., & Lovia, L. (2022). Analisis kemampuan pemahaman konsep matematis siswa di era new normal. *Lattice Journal: Journal of Mathematics Education and Applied*, *1*(1), 45. https://doi.org/10.30983/lattice.v1i1.4744

Fitria, R., Zulhendri, Z., & Ediputra, K. (2024). Pengaruh Pendekatan Contextual Teaching And Learning Terhadap Kemampuan Pemahaman Konsep Matematis Peserta Didik Sma. *Jurnal Pendidikan Mipa*, *14*(1), 99-107. https://doi.org/10.37630/jpm.v14i1.1478

Gawise, G., Tarno, T., & Lestari, A. A. (2021). Efektifitas pembelajaran model flipped clasrooom masa pandemi Covid-19 terhadap hasil belajar siswa di sekolah dasar. *Edukatif: Jurnal Ilmu Pendidikan*, *3*(1), 246-254. https://doi.org/10.31004/edukatif.v3i1.328

Hasudungan, A. N. (2022). Pembelajaran contextual teaching learning (CTL) pada masa pandemi COVID-19: Sebuah tinjauan. *Jurnal DinamikA*, *3*(2), 112-126. https://doi.org/10.18326/dinamika.v3i2.112-126

Iswanto, I. H., Wulandari, A. Y. R., Putera, D. B. R. A., Sutarja, M. C., & Huzairi, H. (2022). Identifikasi pemahaman konsep siswa pada materi suhu dan kalor di MTS Agung Mulia. *Natural Science Education Research*, *5*(2), 129-137. https://doi.org/10.21107/nser.v5i2.17588

Janah, F. R., & Hidayati, S. N. (2025). Analisis pemahaman konsep IPA siswa SMP di Surabaya. Jurnal Pendidikan MIPA, 15(1), 204-209. https://doi.org/10.37630/jpm.v15i1.2416

Kurniawan, C., Surahman, E., Utami, D. D., & Nordin, R. M. (2025). Attempts to Harness AI Model in Online Differentiated Learning on Students' Understanding Levels. *JTP-Jurnal Teknologi Pendidikan*, *27*(2), 587-597. https://doi.org/10.21009/jtp.v27i2.54400

Muktiadji, H., Degeng, I. N. S., Setyosari, P., Kuswandi, D., & Haq, A. S. (2026). The Effect of Flipped Classroom Model and Learning Styles on Improving Students' Conceptual Understanding: An Experimental Study. *Jurnal Ekonomi Pendidikan dan Kewirausahaan*, *14*(1), 1-24. https://doi.org/10.26740/jepk.v14n1.p1-26

Mu'min, W. S., Rohayani, A., & Ginanjar, W. (2025). Penerapan Pendekatan Contextual Teaching and Learning dalam Pembelajaran PAI dan Implikasinya terhadap Kemampuan Berpikir Kritis Siswa. *Epistemic: Jurnal Ilmiah Pendidikan*, *4*(1), 90-107. https://doi.org/10.70287/epistemic.v4i1.212

Nasrah, Malago, J., & Saman, A. (2024). Designing a learning model with a contextual teaching learning approach based on the flipped classroom to improve science understanding. *Asian Journal of Education and Social Studies*, *50*(3), 60-70. https://doi.org/10.9734/ajess/2024/v50i31280

Pacaci, C., Ustun, U., & Ozdemir, O. F. (2024). Effectiveness of conceptual change strategies in science education: A meta-analysis. *Journal of Research in Science Teaching*, *61*(6), 1263-1325. https://doi.org/10.1002/tea.21887

Paristiowati, M., Hadinugrahaningsih, T., Purwanto, A., & Karyadi, P. A. (2019, January). Analysis of students' scientific literacy in contextual-flipped classroom learning on acid-base topic. In *Journal of Physics: Conference Series* (Vol. 1156, No. 1, p. 012026). IOP Publishing. https://doi.org/10.1088/1742-6596/1156/1/012026

Phan, T. N. L. (2025). Students' Perceptions of Flipped Classroom Application in a Study Skills Course. *Computer-Assisted Language Learning Electronic Journal*, *26*(4), 1-24. https://doi.org/10.54855/callej.252641

Rofingatun, R., & Putri, F. A. (2025). Peningkatan Motivasi Belajar Siswa Melalui Penerapan Pendekatan Contextual Teaching and Learning pada Mata Pelajaran Ilmu Pengetahuan Alam dan Sosial Kelas IV Madrasah Ibtidaiyah Negeri 2 Bungo. *EDU SOCIETY: Jurnal Pendidikan, Ilmu Sosial Dan Pengabdian Kepada Masyarakat*, *5*(1), 1321-1328. https://doi.org/10.56832/edu.v5i1.1015

Savitri, O., & Meilana, S. F. (2022). Pengaruh model pembelajaran flipped classroom terhadap pemahaman konsep ipa siswa sekolah dasar. *Jurnal basicedu*, *6*(4), 7242-7249. https://doi.org/10.31004/basicedu.v6i4.3457

Sinaga, E. A., Simorangkir, F. M., & Simanjuntak, S. D. (2025). Pengaruh Model Pembelajaran Flipped Classroom Terhadap Kemampuan Pemahaman Konsep Siswa Kelas Vii Smp Pada Materi Aljabar. *Didaktik: Jurnal Ilmiah PGSD STKIP Subang*, *11*(03), 221-239. https://doi.org/10.36989/didaktik.v11i03.7943

Syaifuddin, T., & Nurlaela, L. (2021). Contextual teaching and learning (CTL) model to students improve learning outcome at senior high school of model terpadu Bojonegoro. *IJORER: International Journal of Recent Educational Research*, *2*(5), 528-535. https://doi.org/10.46245/ijorer.v2i5.143

Wahyudi, T. (2020). Metode Pendekatan Contextual Teaching And Learning Materi Reaksi Redoks Di SMKN 1 Bungaraya TP. 2018/2019. *Jurnal Pendidikan Tambusai, 4*(1), 380-398. https://doi.org/10.31004/jptam.v4i1.474

Yona, F., & Ilhami, A. (2022). Analisis miskonsepsi siswa pada materi klasifikasi makhluk hidup kelas VII SMP Negeri 1 Tebing Tinggi Timur Kabupaten Kepulauan Meranti. *Journal of Natural Sciences Learning*, *1*(1), 19-26.