

The Effect of the CORE Learning Model on Students' Learning Motivation in Biotechnology among Grade X Students at MA Madani

Nur Fitri^{1*}, Muh. Rapi¹, Ummul Hasanah¹

¹Pendidikan Biologi, Fakultas Tarbiyah dan Keguruan, Universitas Islam Negeri Alauddin Makassar, Indonesia

*Correspondence email: nurfitri360@gmail.com

ABSTRAK

Penelitian ini bertujuan untuk mengetahui motivasi belajar peserta didik yang diajar menggunakan model pembelajaran Connecting Organizing Reflecting Extending (CORE) pada materi bioteknologi kelas X MA Madani, membandingkannya dengan peserta didik yang diajar menggunakan model Problem Based Learning (PBL), serta menilai pengaruh model CORE terhadap motivasi belajar peserta didik. Penelitian ini termasuk penelitian eksperimen semu (quasi-experiment) dengan desain non-equivalent control group design. Populasi penelitian meliputi seluruh siswa kelas X MA Madani yang berjumlah 79 orang. Sampel terdiri dari dua kelas yakni X.1 dan X.2, masing-masing berjumlah 20 peserta didik yang dipilih menggunakan teknik purposive sampling. Data dikumpulkan melalui angket motivasi belajar, kemudian dianalisis menggunakan uji deskriptif dan inferensial. Hasil penelitian menunjukkan bahwa motivasi belajar peserta didik yang diajar dengan model CORE meningkat dari rata-rata pretest 55,10 menjadi posttest 61,55 dengan selisih rata-rata 6,45. Sedangkan peserta didik yang tidak menggunakan model CORE memperoleh rata-rata pretest 53,05 dan posttest 57,90 dengan selisih rata-rata 4,85. Berdasarkan uji hipotesis yang menghasilkan nilai signifikansi $0,000 < 0,05$ dapat disimpulkan bahwa model pembelajaran CORE memiliki pengaruh signifikan terhadap motivasi belajar siswa pada materi bioteknologi kelas X MA Madani.

ABSTRACT

This study aimed to examine the learning motivation of students taught using the Connecting, Organizing, Reflecting, and Extending (CORE) learning model in biotechnology instruction for Grade X students at MA Madani, compare their motivation with that of students taught using the Problem-Based Learning (PBL) model, and determine the effect of the CORE model on students' learning motivation. This study employed a quasi-experimental approach using a non-equivalent control group design. The population comprised all 79 Grade X students at MA Madani. The sample consisted of two classes, X.1 and X.2, with 20 students in each class, selected through purposive sampling. Data were collected using a learning motivation questionnaire and analyzed using descriptive and inferential statistical procedures. The findings revealed that the mean learning motivation score of students taught using the CORE model increased from 55.10 on the pretest to 61.55 on the posttest, representing a mean increase of 6.45 points. In comparison, students taught using the PBL model showed an increase from a mean pretest score of 53.05 to a mean posttest score of 57.90, corresponding to a mean increase of 4.85 points. Hypothesis testing yielded a significance value of $p < 0.001$, indicating a statistically significant difference. These findings suggest that the CORE learning model has a significant positive effect on students' learning motivation in biotechnology instruction among Grade X students at MA Madani.

ARTICLE HISTORY

Received 12 October 2025

Accepted 8 August 2025

KEYWORDS

CORE model, learning motivation

HOW TO CITE:

Fitri, Nur, Muh. Rapi & Ummul Hasanah (2026). The Effect of the CORE Learning Model on Students' Learning Motivation in Biotechnology among Grade X Students at MA Madani. *Jurnal Al-Ahya*, 8(1), 19–29.
<https://doi.org/10.24252/al-ahya.v8i1.61974>

Introduction

Education is a human-centered activity that involves interactions among individuals and is directed toward human development. Consequently, discussions of education and humanity are inherently interconnected and cannot be separated (Humasah, 2019). Through education, human values are not merely transmitted from one generation to the next but are also internalized within individuals. This process is intended to cultivate individuals with a strong sense of humanity and a high degree of empathy. Therefore, education plays a fundamental role in human development and constitutes an essential component of human life (Triwiyanto, 2014).

Education plays a pivotal role in promoting human well-being, as the quality of an education system reflects the level of progress and modernization within a society. Moreover, education serves as a key driver of cultural development by transforming individuals' patterns of thought, attitudes, and social practices in response to advancements generated through educational processes. Through education, individuals are empowered to develop creative and innovative ideas that contribute to the advancement of civilization (Mustaghfiroh, 2020). Nevertheless, educational success is determined not only by the quality of the curriculum or the availability of learning facilities but also by the pivotal role of teachers in effectively managing the teaching and learning process.

Teachers play a pivotal role in creating engaging learning experiences by implementing instructional models that are aligned with classroom conditions and students' characteristics. Selecting an appropriate instructional model is therefore essential for supporting the effectiveness of the teaching and learning process (Siregar, 2023). Instructional models provide a systematic framework that guides the entire learning process, from lesson planning to classroom implementation. As conceptual frameworks, they assist teachers in organizing learning activities into clear and structured sequences, selecting appropriate strategies, techniques, methods, and media, and adapting instructional activities to students' characteristics and learning needs (Octavia, 2020). The use of diverse instructional models is also important for improving the quality of learning, as it can stimulate students' enthusiasm, reduce learning monotony, and enhance their motivation to participate actively in classroom activities (Asyafah, 2019). Within this context, teachers function as facilitators who establish a supportive, interactive, and conducive learning environment that encourages students' active participation and creativity, which may ultimately contribute to increased learning motivation (Abdullah et al., 2023).

Learning motivation refers to the internal drive that encourages students to participate actively and engage meaningfully in the teaching and learning process (Sutiah, 2016). It plays an important role in enhancing students' enthusiasm for learning, sustaining their engagement in learning activities, and promoting active participation throughout the instructional process. Therefore, educators need to understand and continuously monitor students' learning motivation

to maintain and strengthen their willingness to learn. The selection of an appropriate instructional model can influence students' levels of motivation, which in turn may affect learning effectiveness and the achievement of intended learning objectives. Conversely, students with high levels of motivation are more likely to participate actively in learning activities, make optimal use of the instructional model implemented, and achieve the expected learning outcomes (Lestari, 2020).

Based on the observational findings, most students did not demonstrate a high level of enthusiasm during the learning process. This was reflected in their limited initiative to ask questions, low participation in classroom discussions, and tendency to engage in learning activities primarily when assignments were given by the teacher. These conditions indicate that students' learning motivation needs to be strengthened through the implementation of engaging and student-centered instructional models that promote active participation throughout the learning process.

Based on these considerations, the implementation of an appropriate instructional model is needed as an alternative strategy to enhance students' learning motivation. Various instructional models have been developed to promote students' active participation and motivation in the learning process. One such approach is the Connecting, Organizing, Reflecting, and Extending (CORE) learning model. The CORE model comprises four stages: connecting, organizing, reflecting, and extending knowledge. Through the systematic implementation of these stages, the model is expected to foster greater student engagement and motivation throughout the learning process (Wati et al., 2019).

The implementation of the CORE model emphasizes student-centered and self-directed learning, in which students are encouraged to identify, explore, understand, and subsequently communicate the knowledge they have acquired, either individually or collaboratively (Diani et al., 2021). Grounded in constructivist learning theory, the CORE model incorporates discussion-based activities to facilitate students' active involvement and strengthen their motivation during the learning process (Fadly, 2022). According to Shoimin, as cited in Suci et al. (2020), the CORE model offers several advantages, including promoting active participation in learning, strengthening students' ability to retain and understand conceptual knowledge, and developing critical-thinking and problem-solving skills.

The CORE learning model has been investigated in various educational contexts. A study by Gus Ayu Wulandari (2020) demonstrated that the implementation of the CORE model had a positive effect on the critical-thinking skills of seventh-grade students at SMP Karya Bhakti. Similarly, Cindi Pitaloka reported that the use of the CORE model influenced students' science process skills and scientific attitudes in biology learning. These findings indicate that the CORE model contributes not only to students' cognitive development but also to the enhancement of scientific attitudes and science process skills. Nevertheless, empirical studies examining the influence of the CORE model specifically on learning motivation remain limited. Previous research

has predominantly focused on cognitive outcomes and scientific skills, whereas learning motivation, as an important factor underlying students' active participation and persistence in learning, has received comparatively less attention. Therefore, the novelty of the present study lies in its focus on students' learning motivation, thereby extending current understanding of the effectiveness of the CORE model beyond cognitive outcomes to its potential role in fostering motivational aspects of learning.

The success of the learning process can also be reflected in the extent to which students are actively engaged in learning activities. Learning motivation plays a crucial role in supporting the achievement of optimal learning outcomes. Instruction tends to be more effective when students actively participate in the teaching and learning process. Students with strong learning motivation are more likely to demonstrate greater enthusiasm, persistence, and active involvement, particularly when they perceive learning activities as meaningful and engaging (Shalihah et al., 2022). Accordingly, this study investigates the implementation of the CORE learning model as an instructional strategy for enhancing students' learning motivation.

Methodology

The present study employed a quasi-experimental research design, specifically a non-equivalent control group design. The study was conducted at MA Madani during the second semester of the 2024/2025 academic year. The study population comprised 79 Grade X students. The research sample consisted of Class X.1 as the experimental group, which received instruction using the CORE (Connecting, Organizing, Reflecting, and Extending) learning model, and Class X.2 as the control group, which was taught using the Problem-Based Learning (PBL) model. Each group consisted of 20 students. Participants were selected using purposive sampling based on predetermined criteria aligned with the objectives of the study.

The research instrument was a learning motivation questionnaire. Construct validity was evaluated by two expert validators. The validation results indicated that the teaching module obtained a mean score of 3.65, categorized as *highly valid*, while the learning motivation questionnaire obtained a mean score of 3.95, also categorized as *highly valid*. The data were analyzed using both descriptive and inferential statistics. Inferential analyses included tests of normality and homogeneity of variance, followed by hypothesis testing using an independent-samples t-test, performed with SPSS software. The learning motivation questionnaire consisted of 20 items, with responses rated on a four-point Likert scale ranging from 1 to 4. The categorization criteria for students' learning motivation scores are presented as follows:

Table 1

Categorization of Learning Motivation Questionnaire Scores (Azwar, 2012)

Interval Skor	Kategorisasi
35	Very Low
36-45	Low
46-55	Moderate
56-65	High
> 65	Very High

Results and Discussion

The data obtained from Grade X students at MA Madani were analyzed using descriptive and inferential statistical procedures. The results are presented below.

Table 2

Descriptive Statistical Analysis of Students' Learning Motivation

Descriptive Statistics	Experimental Class		Control Class	
	Pretest	Posttest	Pretest	Posttest
N	20	20	20	20
Minimum Score	45	57	44	50
Maximum Score	58	66	56	60
Mean	55,10	61,55	53,05	57,90
Standard Deviation	3,640	2,874	4,548	2,532
Variance	13,253	8,261	20,682	6,411

As shown in Table 2, the mean pretest score was 53.05 in the control class and 55.10 in the experimental class. Following the intervention, the mean posttest score in the experimental class increased to 61.55, whereas the control class achieved a mean posttest score of 57.90. These descriptive findings indicate a greater increase in learning motivation in the experimental class than in the control class.

Table 3

Frequency Distribution of Learning Motivation Categories in the Experimental Class

Interval	Score Category	Frequency		Percentage (%)	
		Pretest	Posttest	Pretest	Posttest
> 65	Very High	0	4	0	20
56-65	High	12	16	60	80
46- 55	Moderate	6	0	30	0
36-45	Low	2	0	10	0
< 35	Very Low	0	0	0	0

Table 3 presents the distribution of students' learning motivation scores in the experimental class. At the pretest stage, 10% of the students were classified in the low category, 30% in the moderate category, and 60% in the high category, while no students were classified in either the very low or very high categories. Following the intervention, 80% of the students were classified in the high category and 20% in the very high category. No students remained in the very low, low,

or moderate categories. This shift indicates an improvement in students' learning motivation after the implementation of the intervention.

Table 4

Frequency Distribution of Learning Motivation Categories in the Control Class

Interval	Score Category	Frequency		Percentage (%)	
		Pretest	Posttest	Pretest	Posttest
> 65	Very High	0	4	30	0
56-65	High	6	17	50	85
46- 55	Moderate	10	3	20	15
36-45	Low	4	0	0	0
< 35	Very Low	0	0	0	0

As presented in Table 4, six students (30%) were classified in the high learning motivation category at the pretest stage. Following the intervention, this number increased to 17 students (85%), indicating a shift of several students from the moderate to the high category. At pretest, 10 students (50%) were classified in the moderate category and four students (20%) in the low category. At posttest, only three students (15%) remained in the moderate category, while no students were classified in the very low, low, or very high categories.

The effect of the Connecting, Organizing, Reflecting, and Extending (CORE) learning model on students' learning motivation was examined using an independent-samples t-test at a significance level of 0.05. Prior to hypothesis testing, tests of normality and homogeneity of variance were conducted to determine whether the assumptions required for parametric analysis were satisfied. The results are presented in the following tables.

Table 5

Results of the Normality Test

Class	Shapiro-Wilk	
	Sig	Interpretation
Experimental Class Pretest	0.08	Normal
Experimental Class Posttest	0.227	Normal
Control Class Pretest	0.092	Normal
Control Class Posttest	0.299	Normal

As shown in Table 5, the Shapiro–Wilk normality test indicated that all datasets were normally distributed because the significance values for both the experimental and control classes exceeded 0.05. Specifically, the significance values were 0.080 for the experimental-class pretest, 0.227 for the experimental-class posttest, 0.092 for the control-class pretest, and 0.299 for the control-class posttest. Thus, the normality assumption was satisfied.

Table 6.

Results of the Homogeneity of Variance Test

Variable	Test of Homogeneity	
	Sig	Interpretation
Learning Motivation	0,104	Homogen

As presented in Table 6, the homogeneity of variance test performed using SPSS version 22 yielded a *Based on Mean* significance value of 0.104. Because this value was greater than 0.05, the variances of the two groups were considered homogeneous. Therefore, the assumption of homogeneity of variance was satisfied.

Table 7
Hypothesis Testing Results

Variable	<i>Independent Sample Test</i>				
	F	Sig	t	df	Sig. (2-tailed)
Learning Motivation	2,781	0,104	4,262	38	0,000

Based on the analysis presented in Table 7, the F-value was 2.781 with a significance level of 0.104. Since the significance value was greater than 0.05, the variances of the two groups can be considered homogeneous. The independent-samples *t*-test yielded a *t*-value of 4.262 with 38 degrees of freedom (*df*) and a two-tailed significance value of 0.000 ($p < 0.001$). As this value was below the 0.05 significance threshold, a statistically significant difference in learning motivation was found between the two groups. Accordingly, the null hypothesis (H_0) was rejected and the alternative hypothesis (H_1) was accepted, indicating that the Connecting, Organizing, Reflecting, and Extending (CORE) learning model had a significant effect on students' learning motivation in biotechnology among Grade X students at MA Madani.

The increase in students' learning motivation is closely associated with the characteristics of the CORE learning model, which comprises four stages: Connecting, Organizing, Reflecting, and Extending. During the Connecting stage, students are encouraged to relate new learning materials to their prior knowledge and experiences. This process stimulates curiosity and enhances the perceived relevance of learning, thereby fostering initial engagement and positive attitudes toward the learning process (Rosdiana et al., 2025). Friscillia et al. (2021) reported that the implementation of the CORE learning model, particularly the Connecting stage, can promote students' learning motivation. Similarly, Hasanuddin (2020) emphasized the important role of prior knowledge in supporting the learning process. The Organizing stage is intended to assist students in classifying, structuring, and systematically arranging newly acquired information, thereby enabling them to develop a deeper understanding of the subject matter (Zebua et al., 2024). This process is consistent with constructivist principles, which emphasize that active and collaborative learning can enhance students' motivation and engagement in the learning process (Iyai & Yullys, 2025). The Reflecting stage provides students with opportunities to evaluate their understanding through reflection, discussion, and feedback (Suprihatin, 2019). Finally, the Extending stage encourages students to apply acquired knowledge to new situations or contexts. At this stage, students are guided to recognize the relevance and applicability of the learning material to everyday life (Nasriyanti et al., 2021). These findings are consistent with those of Sari and Karyati (2020), who reported that the

CORE model can significantly improve students' motivation and learning outcomes. Thus, CORE can serve as an effective alternative instructional model for improving the learning process, particularly in affective domains such as learning motivation.

The implementation of the CORE learning model demonstrated a substantial effect on the learning motivation of Grade X students. This finding is evident from the comparison of mean scores between the experimental class, which was taught using CORE, and the control class, which received Problem-Based Learning (PBL), as presented in the preceding table. Descriptively, students in the experimental group demonstrated an increase in learning motivation, with the mean score rising from 55.10 on the pretest to 61.55 on the posttest. This improvement was also reflected in the distribution of motivation categories, with 20% of students reaching a higher motivation category on the posttest, whereas no students were classified in this category at the pretest stage. In addition, the proportion of students in the moderate motivation category decreased, indicating an overall upward shift in learning motivation. The control group also demonstrated an increase in mean motivation scores, from 53.05 to 57.90; however, the magnitude of improvement was smaller than that observed in the experimental group. Furthermore, no students in the control group were classified in the very high motivation category.

The CORE model appears to be more effective than PBL in enhancing students' learning motivation, particularly in biotechnology, a subject that requires conceptual understanding and the ability to establish relationships among interconnected concepts. In the Connecting stage, students relate new learning materials to their previous knowledge and experiences. The Organizing stage enables them to classify, structure, and systematically organize new information. The Reflecting stage provides opportunities for students to assess their understanding through reflection, discussion, and feedback, whereas the Extending stage encourages them to apply acquired knowledge to new situations and contexts. Through this final stage, students are encouraged to understand how the concepts they have learned can be applied to real-life situations (Hidayati, 2023).

This instructional approach is consistent with constructivist theory, which views learning as a process through which students actively construct their own understanding of the world. This process involves acquiring information, interpreting it, and connecting it with previously established knowledge and experiences (Suryana et al., 2022). Fernando et al. (2024) further stated that learning involves both physical and psychological engagement. Consequently, optimal learning cannot occur in the absence of adequate motivation, whether derived intrinsically from the students themselves or extrinsically from their learning environment.

Self-Determination Theory explains the roles of intrinsic and extrinsic motivation in individual development. According to this theory, motivation is fostered when the fundamental psychological needs for autonomy, competence, and relatedness are fulfilled (Ryan & Deci, 2020).

The CORE learning model supports these three dimensions by providing students with opportunities to explore ideas independently, interact and collaborate with peers, and deepen their understanding through reflective activities. One of the principal strengths of CORE lies in its structured cognitive framework, which systematically facilitates the development of conceptual understanding. Consequently, students in the experimental group demonstrated a greater increase in learning motivation because they not only developed a better understanding of the learning material but also became actively and meaningfully involved in the learning process.

A balanced instructional approach that integrates cognitive and affective dimensions can encourage students to become more active, confident, and enthusiastic learners. Uno (2016) emphasized that learning motivation is influenced by interest, persistence, and the drive to achieve success, and that it can be enhanced through instructional strategies that promote active student engagement. The findings of the present study demonstrate that the CORE learning model effectively improved the learning motivation of Grade X students, both statistically and practically, as reflected in the upward shift in students' motivation categories. The strengths of the CORE model include promoting active student participation, strengthening conceptual understanding and knowledge retention, and fostering critical-thinking and problem-solving skills. Nevertheless, the model also has several limitations, particularly its relatively greater time requirements and the need for teachers to effectively manage each instructional stage (Suci et al., 2020).

Conclusion

The learning motivation of students who participated in instruction using the Connecting, Organizing, Reflecting, and Extending (CORE) model in Class X.1 at MA Madani increased from a mean pretest score of 55.10 to a mean posttest score of 61.55, representing an average gain of 6.45 points. In comparison, students in Class X.2 who were taught without the CORE learning model obtained a mean pretest score of 53.05 and a mean posttest score of 57.90, corresponding to an average gain of 4.85 points. The hypothesis testing results indicated that the null hypothesis (H_0) was rejected and the alternative hypothesis (H_1) was accepted. These findings demonstrate that the Connecting, Organizing, Reflecting, and Extending (CORE) learning model had a statistically significant effect on students' learning motivation in biotechnology instruction among Grade X students at MA Madani.

The CORE learning model can therefore be considered an effective alternative instructional approach for enhancing students' learning motivation. Its implementation may also promote greater student engagement, active participation, and collaborative skills in addressing learning-related problems. Furthermore, the findings of this study may serve as a reference for future research

investigating the implementation of the CORE model in different educational contexts or examining other factors associated with students' learning motivation.

References

- Abdullah, A. A., Ahid, N., Fawzi, T., & Muhtadin, M. A. (2023). Peran Guru dalam Pengembangan Kurikulum Pembelajaran Tsaqofah, 3(1), 23–38. <https://doi.org/10.58578/tsaqofah.v3i1.732>
- Asyafah, A. (2019). Menimbang Model Pembelajaran (Kajian Teoretis-Kritis atas Model Pembelajaran dalam Pendidikan Islam). *TARBAWY: Indonesian Journal of Islamic Education*, 6(1), 19–32. <https://doi.org/10.17509/t.v6i1.20569>
- Diani, R., Susanti, A., Lestari, N., Yuberti, Saputri, M., Fujiani, D., & Diani, R. (2021). The influence of connecting, organizing, reflecting, and extending (CORE) learning model toward metacognitive abilities viewed from students' information literacy in physics learning. *IOP Conference Series: Earth and Environmental Science*, 1796(1). <https://doi.org/10.1088/1742-6596/1796/1/012073>
- Efendi. (2022). *Macam Variabel yang Mempengaruhi Motivasi Belajar (Kompetensi, Fasilitas, Lingkungan Belajar)*. Indramayu: CV. Adanu Abimata.
- Endang Titik Lestari. (2020). *Cara Praktis Meningkatkan Motivasi Siswa Sekolah Dasar*. Yogyakarta: Deepublish.
- Fadly, W. (2022). *Model-Model Pembelajaran untuk Implementasi Kurikulum Merdeka*. Yogyakarta: Bening Pustaka.
- Febriani, D., & Kusnafizal, T. (2023). Pengaruh Model Pembelajaran CORE (Connecting, Organizing, Reflecting And Extending) Terhadap Motivasi Belajar Siswa. *Riwayat: Educational Journal of History and Humanities*, 30(2), 674–685. <http://jurnal.unsyiah.ac.id/riwayat/>
- Friscellia, N., Prihatiningtyas, N. C., & Nurhayati, N. (2021). Efektivitas Model Pembelajaran Conecting, Organizing, Reflecting, Extending (Core) Untuk Meningkatkan Kemampuan Berpikir Kritis Matematis Siswa Kelas Vii. *Journal of Educational Review and Research*, 4(1), 63. <https://doi.org/10.26737/jerr.v4i1.2364>
- Hasanuddin, M. I. (2020). Pengetahuan Awal (Prior Knowledge): Konsep dan Implikasi Dalam Pembelajaran. *EDISI: Jurnal Edukasi Dan Sains*, 2(2), 217–232. <https://ejournal.stitpn.ac.id/index.php/edisi>
- Humasah. (2019). *Pengantar Pendidikan*. Malang: UMM Press.
- Iyai, Y., Helsa, Y., & Padang, U. N. (2025). Meningkatkan Motivasi Belajar Siswa Melalui Pendekatan Pembelajaran Aktif. *Jurnal Arjuna : Publikasi Ilmu Pendidikan, Bahasa dan Matematika*, 3(3), 288-296. <https://doi.org/10.61132/arjuna.v3i3.1950>
- Mustaghfiroh, S. (2020). Konsep "Merdeka Belajar " Perspektif Aliran Progresivisme John Dewey. *Jurnal Studi Guru Dan Pembelajaran*, 3(1), 141–147.
- Nasriyanti, R., Cahyaningsih, U., & Dede Salim Nahdi. (2021). Pentingnya Model Core Terhadap Pemahaman Konsep Pada Mata Pelajaran Ipa Pelajaran Ipa. *Seminar Nasional Pendidikan FKIP UNMA 2021*, 104–110.
- Octavia, S. A. (2020). *Model- Model Pembelajaran*. Yogyakarta: Deepublish.
- Rosdiana, I., Sapriya, & Pitria Sopianingsih. (2025). Pengaruh Model Pembelajaran CORE (Connecting, Organizing, Reflecting, Extending) Terhadap Kemampuan Berpikir Kritis Peserta Didik Dalam Pembelajaran Pendidikan Pancasila (Studi Kuasi Eksperimen di Kelas

- VII SMP Negeri 2 Cimahi Tahun Ajaran 2024/2025). *Jurnal Pengabdian Masyarakat Dan Riset Pendidikan*, 4(1), 4282–4291. <https://doi.org/10.31004/jerkin.v4i1.2350>
- Ryan, R. M., & Deci, E. L. (2020). Intrinsic and extrinsic motivation from a self-determination theory perspective: Definitions, theory, practices, and future directions. *Contemporary Educational Psychology*, 61(April), 101860. <https://doi.org/10.1016/j.cedpsych.2020.101860>
- Saifuddin Azwar. (2012). *Penyusunan Skala Psikologi*. Yogyakarta: Pustaka Pelajar.
- Sari, E. P., & Karyati. (2020). CORE (Connecting, Organizing, Reflecting & Extending) learning model to improve the ability of mathematical connections. *Journal of Physics: Conference Series*, 1581(1). <https://doi.org/10.1088/1742-6596/1581/1/012028>
- Shalihah, A., Mahdian, M., & Kusasi, M. (2022). Penerapan Model Pembelajaran Core (Connecting, Organizing, Reflecting, Extending) Berbantuan Mind Mapping Untuk Meningkatkan Motivasi Dan Hasil Belajar Pada Materi Hidrolisis Garam. *JCAE (Journal of Chemistry And Education)*, 5(2), 77–85. <https://doi.org/10.20527/jcae.v5i2.1199>
- Siregar, M. (2023). Upaya Meningkatkan Hasil Belajar Siswa Melalui Pembelajaran Kontekstual Dengan Pendekatan Inkuiri Siswa Pada Bidang Studi Agama Islam Di Kelas Vii Smp Negeri 1 Balai Jaya Kabupaten Rokan Hilir. *Jurnal Penelitian Ilmu Pendidikan Indonesia*, 2(1), 11–15.
- Suci, N. K. A. A., Pudjawan, K., & Parmiti, D. P. (2020). Pengaruh Model Pembelajaran CORE Berbasis SETS Terhadap Hasil Belajar IPA Siswa Kelas V SD. *Mimbar Pendidikan Indonesia (MPI)*, 1(3), 297–308. <https://ejournal.undiksha.ac.id/index.php/JIPI2/article/view/30956/17316>
- Suprihatin, S. (2019). Upaya Meningkatkan Motivasi Belajar Siswa. *G-Couns: Jurnal Bimbingan Dan Konseling*, 3(1), 73–82. <https://doi.org/10.31316/g.couns.v3i1.89>
- Suryana, E., Aprina, M. P., & Harto, K. (2022). Teori Konstruktivistik dan Implikasinya dalam Pembelajaran. *Jiip- Jurnal Ilmiah Ilmu Pendidikan*, 5(7), 2070–2080. <https://doi.org/10.54371/jiip.v5i7.666>
- Sutiah. (2016). *Teori Belajar & Pembelajaran*. Sidoarjo: Nizamia Learning Center.
- Triwiyanto, T. (2014). *Pengantar Pendidikan*. Jakarta: Bumi Aksara.
- Umi Hidayati. (2023). Pengaruh Model Pembelajaran CORE (Connecting, Organizing, Reflecting, And Extending) terhadap Kemampuan Komunikasi Matematis Siswa SMP Negeri 206 Jakarta. *Jurnal Riset Pendidikan Matematika Jakarta*, 5(1), 45–57. <https://doi.org/10.21009/jrpmj.v5i1.23025>
- Uno, H. (2016). *Teori Motivasi dan Pengukurannya : Analisis di Bidang Pendidikan*. Jakarta: Bumi Aksara.
- Wati, K., Hidayati, Y., Wulandari, A. Y. R., & Ahied, M. (2019). Pengaruh Model Pembelajaran Core (Connecting Organizing Reflecting Extending) Untuk Meningkatkan Keterampilan Berpikir Kritis Siswa. *Natural Science Education Research*, 1(2), 108–116. <https://doi.org/10.21107/nser.v1i2.4249>
- Yogi Fernando, Popi Andriani, & Hidayani Syam. (2024). Pentingnya Motivasi Belajar Dalam Meningkatkan Hasil Belajar Siswa. *ALFIHRIS : Jurnal Inspirasi Pendidikan*, 2(3), 61–68. <https://doi.org/10.59246/alfihris.v2i3.843>
- Zebua, N. B., Lahagu, A., Telaumbanua, W. A., & Laoli, B. (2024). Penerapan Model Pembelajaran Core dalam Meningkatkan Hasil Belajar Siswa Mata Pelajaran IPS Terpadu Kelas VIII SMP Negeri 4 Gunungsitoli. *AKADEMIK: Jurnal Mahasiswa Humanis*, 4(3), 1103–1112. <https://doi.org/10.37481/jmh.v4i3.1047>