

IMPROVING STUDENTS' QUESTIONING ABILITY THROUGH LITERACY IN NARRATIVE TEXT USING PROBLEM-BASED LEARNING

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ABSTRACT

This study aims to improve students' questioning ability in narrative text learning through the application of literacy in narrative text using problem-based learning. The research method used is classroom action research with planning, implementation, reflection, and action steps. The research sample is 34 grade 11 students from SMA Negeri 9 Malang, and questioning skills are measured based on quantity and quality indicators of questions that refer to Bloom's taxonomy. Data used are observation data and question results from the pre-test and post-test. The research instruments used are observation sheets and test. Data analysis was conducted quantitatively using percentages through Microsoft Excel which will then be explained using descriptive interpretation. This study successfully increased student question quantity by 61% in cycle I and 72% in cycle II, as well as improved student question quality at levels C3, C4, and C5 in cycle II. In addition, there was an increase in students' cognitive levels in the second cycle, especially at levels C1 and C2. Based on the research results, it can be concluded that Literacy in Narrative Text Using a Problem-Based Learning method is effective in improving students' questioning ability in narrative text learning. This research contributes to our understanding of the development of students' questioning skills through literacy and problem-based learning

Keywords: literacy, problem-based learning, questioning ability

The ability to ask questions is one of the important skills that students must possess in order to obtain a deeper understanding of a subject matter (Jannah et al., 2016). In the context of education, questioning skills are not only

a tool for acquiring information, but also a crucial skill and indicator in the development of critical and analytical thinking skills (Budiarti et al., 2016). However, in reality, students often face difficulties in asking effective questions

(Rasyid, Abdur . Gaffar, 2020; Novera et al., 2021; Royani & Muslim, 2014; Wiyarsi & Priyambodo, 2011). This may be caused by various factors, such as difficulty and lack of understanding of the subject matter, lack of confidence, or lack of experience in questioning something (Ardila & Hartanto, 2017; Lestari, 2015; and Dewi & Cirebon, 2018).

In addition to the factors mentioned above, another cause is the lack of teacher ability in creating a conducive and interactive classroom environment (Wahyuni & Setiyani, 2017; dan Jatirahayu, 2013). When students feel uncomfortable or unsupported by the classroom atmosphere, they may not feel motivated to ask questions or participate actively in learning (Herzamzam, 2021; Law et al., 2019). Furthermore, this can also be attributed to the lack of learning resources as literature and references in the learning process (Irwandi & Fajeriadi, 2020). As a result, the learning process becomes less optimal and boring for students.

For teachers, questioning activities conducted by students can be used as a medium to assess how far students are prepared and understand the concepts and materials taught in class (Ramadhan et al., 2017). Meanwhile, for students, asking questions is an activity of digging for information, informing what is known, and directing towards what is not known yet (Ahmad & Tetrasari, 2018). Some indicators of questioning skills according to (Lestari, 2015) are as follows: (1) providing clear and concise questions; (2) distribution of

the scope of questions; (3) cognitive level of questions; (4) sequence of questions that have a logical sequence.

According to Nurul Mahruzah Yulia & Sutrisno (2022), questioning skills can be measured by analyzing the types of questions asked by students. One way to measure students' questioning skills is through observing the quality and quantity of questions asked by them. The quality of questions can be measured based on the revised Bloom's taxonomy, where lower-level cognitive questions are those that involve memorizing, understanding, and applying, while higher-level cognitive questions include analyzing, evaluating, and creating (Bujuri, 2018). Another indicator of questioning skills is the quantity of questions (Zuraida et al., 2019). The quantity of questions refers to all of the numbers of the questions asked by students during the learning process. The more frequently students ask questions, the more active they are in the learning process.

The initial observations conducted by the researcher with the subject teacher showed that the English language learning conditions in class XI of SMA Negeri 9 Malang were still lacking in capturing students' attention. The teacher uses a conventional teaching model and still focuses on explaining the material in the book, resulting in a less interactive classroom atmosphere between the teacher and students. Many students are still reluctant to ask, answer, or respond to the teacher's questions. Even when the teacher asks students to make questions to explore the learning material, not all students are able to make

high-quality and high-quantity questions. Therefore, a renewal of the learning method is needed, shifting to student-centered learning using Problem-Based Learning which can foster a learning atmosphere in the classroom that makes students more active in the learning process (Aksela & Haatainen, 2019).

PBL has five implementation syntaxes, including: (1) Student orientation to the problem (2) Organizing students for learning (3) Guiding individual and group investigations (4) Developing and presenting work results (5) Analyzing and evaluating problem-solving processes (Togatorop & Sinuraya, 2019). The syntaxes in PBL will require students to share information, discuss, and think critically in groups or individually (Apriza & Mahmudi, 2015). By carrying out these activities, students will gain a deeper understanding of the problem at hand, as well as develop the critical and analytical thinking skills needed to solve problems (Dolmans et al., 2016). In addition, by sharing information and discussing, students can also improve their questioning skills, as they can obtain various perspectives and different viewpoints from their classmates. This will help students develop more effective questioning skills and improve their overall learning quality (Fakhriyah, 2014; Zein & Maielfi, 2020).

PBL is a suitable media for students to gain maximum English skills (Shofiyuddin, Sofiana, Andriyani, & Mubarak, 2023). In implementing PBL to improve students' questioning skills,

there have been previous studies carried out. Previous research conducted by (Rohmah et al. (2022) also shows that problem-based learning is effective in improving students' questioning skills. The results showed that after participating in learning with a PBL approach, there was a significant improvement in students' questioning skills. The study also showed that the problem-based learning model provides opportunities for students to develop cognitive, social, and affective abilities comprehensively (Rohmah et al., 2022). Another relevant previous study is a study conducted by Yoesoef (2015) and Sugianti et al. (2018). Yoesoef (2015) found that there was a significant improvement in students' questioning skills and mastery of physics concepts after implementing the problem-based learning model. Meanwhile, Sugianti et al. (2018) found that the problem-based learning model can improve higher-order thinking skills and questioning skills of fifth-grade elementary school students.

However, there is still a research gap regarding the implementation of PBL in improving students' questioning skills. Although there have been several studies examining the effects of PBL on students' questioning skills in other subjects, there has not been any research specifically investigating the impact of PBL on students' questioning skills in the context of EFL narrative text literacy. Therefore, further research is needed to fill this knowledge gap. The purpose of this study is to enhance students' questioning skills in narrative text learning through the implementation of

literacy-based PBL method. Thus, this study is expected to contribute to the development of more effective and innovative learning methods to improve the quality of learning and students' academic achievement. This research can also provide useful information for teachers and educators in developing effective learning strategies to improve students' questioning skills in narrative text literacy using PBL.

METHOD

This study uses classroom action research method. Classroom action research is a research method that aims to improve students' performance or learning outcomes by improving the learning process in the classroom (Sapring, 2018). The research steps used consist of planning, implementation, reflection, and action. In the action phase, the researcher makes improvement or adjustment based on the analysis and reflection that has been done previously. The same cycle of action research is carried out to see the improvement or enhancement achieved from each cycle conducted, which in this study was conducted for two cycles.

In this study, the sample used was 34 students of class 11 of SMA Negeri 9 Malang. Questioning skills were measured based on indicators of quantity and quality of questions that refer to Bloom's taxonomy. Quantity is seen from the number of questions successfully created by students, and quality is seen from the level of questions asked by students. This study is considered successful if it meets success indicators, namely 1) students'

questioning skills in cycle I increase from pre-cycle and increase from one cycle to the next, both in terms of quantity and quality. The data used are observation data and question results through pre-tests and post-tests. The research instruments used are observation sheets, pre-test and post-test. Data analysis is done quantitatively using percentages through Microsoft Excel, which will then be explained using descriptive analysis.

FINDINGS

The research results regarding students' questioning ability in the application of literacy in narrative text using problem-based learning are presented in detail as follows.

Pre-Cycle Activities

Based on the pre-cycle activity, data was collected regarding the number of questions made by the students in the initial stage along with the proportion of their cognitive level based on Bloom's taxonomy. The data regarding the number of student questions can be seen in the table 1.

From the results of the pre-cycle activity conducted, it was found that out of 34 students divided into 14 groups, they were able to produce a quantity of questions totaling 49 questions. It was also known from the data that on average, each group of students was able to produce 3 to 4 questions.

Furthermore, based on the assessment referring to the cognitive level of Bloom's taxonomy, from the total number of questions made by the students, it was found that 92% of the questions made were at the C1 level

(knowledge), which is the lowest level in Bloom's taxonomy. Meanwhile, the remaining 8% were at level 2 or the

comprehension stage. The data can be seen in chart 1 as follows.

Table 1. Number of Questions Created by Students in Pre-Cycle Activity

No	Description	Total
1	Number of groups	14
2	Questions total number	49
3	Average	3.5

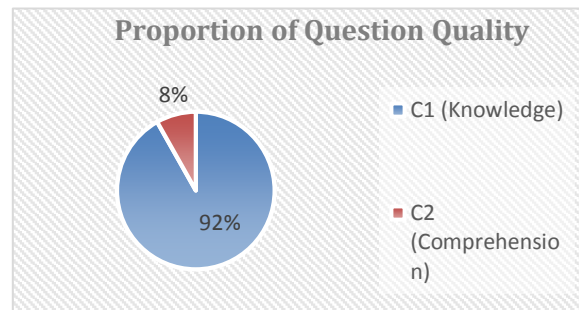


Chart 1. Proportion of Question Quality in Pre-Cycle Activity

Cycle I

To improve the quantity and quality of students' questions at a higher level, the researcher implemented a learning method called "literacy in narrative text using problem-based learning." This method is designed to help students develop critical and analytical thinking skills by teaching structured reading techniques and encouraging active participation in learning. The results of cycle I showed data on the quantity of student questions, as shown in table 2.

Based on the results of cycle I after the intervention was conducted, it was found that out of 14 groups of students, the total quantity of questions reached 79 questions. This indicates that on average, each group of students was able to produce 5 to 6 questions. The percentage increase in quantity is 61%.

Based on the research results in

cycle I, data was also obtained on the proportion of cognitive level of student questions, which was 81% at level C1 (Knowledge), 11% at level C2 (Comprehension), 1% at level C3 (Application), and 6% at level C4 (Analysis). The proportion of these qualities can be seen in chart 2.

Based on the observation results in cycle I, some shortcomings were found that need to be improved in the learning process. Firstly, the reading materials given to the students were considered too simple and not structured enough, so they did not demand critical thinking from the students. Secondly, the teacher had not provided feedback on the level of students' questions. Based on the reflection results, the success indicator regarding students' questioning skills had been achieved but was not yet optimal. Therefore, the researcher conducted cycle II.

Table 2. Number of Questions Created by Students in Cycle I

No	Description	Total
1	Number of groups	14
2	Questions total number	79
3	Average	5.6
4	Percentage increase in quantity	61%

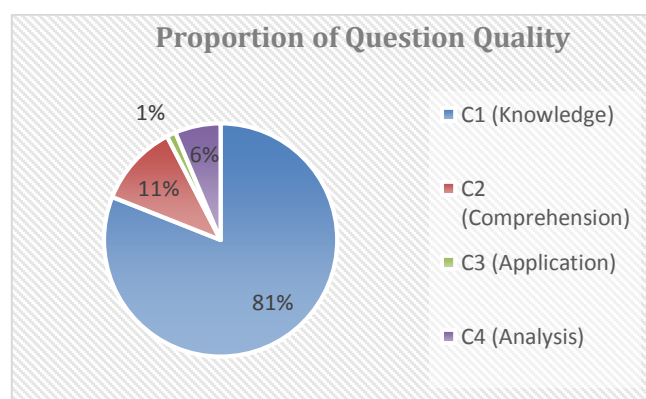


Chart 2. Proportion of Question Quality in Cycle I

Cycle II

After evaluating the results of cycle I, the teacher proceeded to conduct cycle II for improvement. In cycle II, the teacher observed and monitored the teaching and learning activities of the students. From cycle II, data on the quantity of student questions was obtained as follows.

In cycle II, it was found that there were 136 questions asked by 14 groups of students. Thus, on average, each group was able to produce 9 to 10 questions. In addition, there was an increase in the quantity of questions by 72% from the previous cycle. The data are shown by table 3.

Based on the data obtained in cycle II, there was an improvement in students' learning quality in terms of cognitive level. At the C1 level, it increased to 36%, while at the C2 level it

increased to 49%. At the C3 level, there was a 6% increase, a 9% increase at the C4 level, and 1% at the C5 level. The data are shown in the chart 3.

The observation results in cycle II showed that the implementation of the literacy in narrative text using problem-based learning method was well executed. The readings used in learning supported students to think critically and motivated them to be more active in learning activities. Furthermore, the reflection results showed that the expected indicators to improve students' questioning skills had been achieved. Based on these results, the researcher decided to end the study.

Table 3. Number of Questions Created by Students in Cycle II

No	Description	Total
1	Number of groups	14
2	Questions total number	136
3	Average	9.714286
4	Percentage increase in quantity	72%

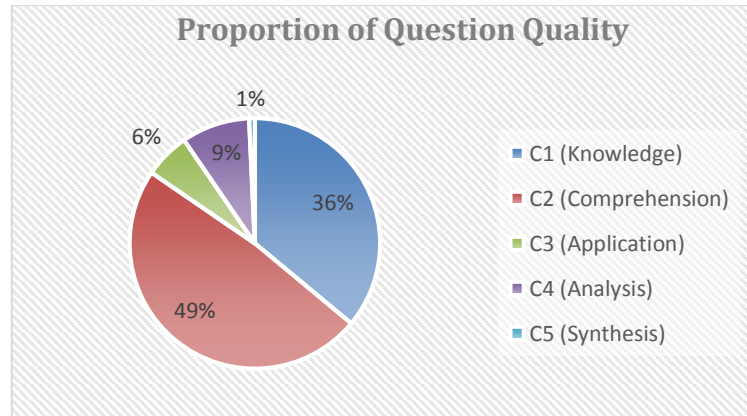


Chart 3. Proportion of Question Quality in Cycle II

Comparison of Students' Questioning Ability in Pre-Cycle, Cycle I, and Cycle II Activities.

Overall, the comparison of students' questioning ability shown by

the quantity of their questions in pre-cycle, cycle I, and cycle II activities can be seen in Table 4. Then, the comparison of students' overall question quality in pre-cycle, cycle I, and cycle II activities can be seen in Table 5.

Table 4. Comparison of Students' Question Quantity in Pre-Cycle, Cycle I, and Cycle II

Indicator	Pre-cycle	Cycle I	Percentage Increase I	Cycle II	Percentage Increase II
Quantity	49	79	61%	136	72%

Table 5. Comparison of Students' Question Quality in Pre-Cycle, Cycle I, and Cycle II

Indicator	Pre-cycle	Cycle I	Cycle II
C1	92%	81%	36%
C2	9%	11%	49%
C3	-	1%	6%
C4	-	6%	9%
C5	-	-	1%
C6	-	-	-

DISCUSSION

Improving students' questioning

ability is an important aspect of the learning process (Budiarti et al., 2016). To achieve this goal, it is necessary to provide learning that encourages students to think critically so that they can generate higher quality and quantity questions. Based on the results of the pre-cycle activity conducted, it was recorded that there were 34 students divided into 14 groups, and they were able to generate a total of 49 questions. This result shows that the students were quite active in participating in the learning process. However, in terms of the number of questions generated, there is still a shortage in quantity. Although each group was able to generate an average of 3 to 4 questions, this is still below expectations, especially when compared to successful research groups who were able to obtain a significant amount of data through a large number of questions (Rohmah et al., 2022). In this case, factors that may affect the quantity of questions generated include students' level of understanding of the topic being discussed. As Surya et al. (2018) and Ardila & Hartanto (2017) stated, understanding the material can cause students to have difficulty in asking questions. In addition, students' ability to organize ideas and information, as well as environmental, learning, and social factors that affect group performance, can also be factors that affect students' quantity of questions. As Rohmah et al. (2022) stated, conducive and interactive learning provided by teachers can affect students' questioning ability.

Based on the assessment conducted using Bloom's taxonomy, data showed that 92% of the questions created by the students were at the C1 level (knowledge), and only 8% of the questions were at level

2 or understanding. This indicates that the majority of questions generated by the students still focus on basic knowledge and do not demonstrate a deeper understanding of the learning material. Level C1 is the lowest level in Bloom's taxonomy, indicating that these questions only focus on basic knowledge that students should possess (Bujuri, 2018). Therefore, these results can be used as an evaluation to facilitate students' continued development in the learning process and to gain a deeper understanding of the material being discussed. In addition, these results can also serve as a reference for researchers to reconsider the learning strategies used in research activities.

In an effort to increase student participation in research activities, the researchers conducted literacy learning action using problem-based learning in the first cycle. The results of the first cycle showed a significant increase in the quantity of questions generated by students. Out of 14 groups of students, the total quantity of questions recorded was 79, an increase of 61% from the pre-action cycle. On average, each group of students was able to produce 5 to 6 questions, indicating a significant improvement compared to the pre-cycle activity.

These results indicate that the PBL-based literacy learning method implemented was able to have a positive impact on increasing student participation in research activities. This further supports the findings of Rohmah et al. (2022) and Yoesoef (2015) that PBL is effective in improving students' questioning skills. Students can be more active in participating in learning activities and produce higher quality questions. This is in

line with the main goal of education, which is to develop students' critical and analytical thinking skills (Jannah et al., 2016; Budiarti et al., 2016).

The results of the first cycle of the study also showed that the proportion of cognitive levels of student questions was still dominated by level C1 (Knowledge) at 81%. This indicates that students still have difficulties in developing critical and analytical thinking skills in making more complex questions. As Budiarti et al. (2016) stated, the quality of student questions indicates their critical thinking ability. Nevertheless, there was an improvement in the proportion of cognitive level questions at level C3 (Application) and C4 (Analysis), each reaching only 1% and 6%, but already showing an improvement in the quality of questions produced by students.

Further efforts from teachers are needed to help students develop critical and analytical thinking skills (Apriza & Mahmudi, 2015). One way that can be done is by providing more structured learning and introducing more structured reading techniques. Teachers can also provide appropriate feedback on student questions and encourage them to produce questions at higher levels of Bloom's taxonomy. With appropriate efforts, it is hoped that students can improve their critical thinking skills better and understand the learning materials.

Based on the results of the observation in cycle I, several shortcomings were found that need to be improved so that the learning objectives can be achieved optimally. Firstly, it was found that the reading materials provided were too simple and lacked structure, so

they did not challenge students to think critically. This can have an impact on their limited investigation, hindering them from producing more complex questions. As stated by Togatorop & Sinuraya (2019), structured learning through the PBL syntax can support students' exploration. Therefore, students can be more critical in creating questions. Secondly, the teacher has not provided feedback on the level of questions generated by students. Therefore, students have not been able to know the extent of their ability in generating questions and the teacher has not been able to provide improvements to students' questions. Based on these findings, the researcher conducted cycle II to improve the shortcomings in cycle I and improve the quality of the learning process.

In cycle II, the research results showed an increase in the quantity of questions posed by students by 72% compared to the previous cycle. This indicates that the teaching method or strategy applied in cycle II was effective in increasing student participation and encouraging them to be more active in learning with better questioning abilities. This is consistent with the findings of Sugianti and Marhaeni (2018) that PBL improves students' questioning abilities. In addition, on average, each group was able to produce 9 to 10 questions, which means that student groups have engaged in higher-level thinking and were more productive in asking questions compared to the previous cycle. This finding also supports Sugianti et al. (2018) further findings. This shows that students have been able to develop critical and creative thinking skills in producing relevant questions to the material being studied. With the increase in

the quantity of questions, it is hoped that students can better understand the material being studied and achieve better learning outcomes (Ramadhan et al., 2017). This is because with the more questions asked by students, the more information can be revealed and obtained by them (Budiarti et al., 2016). These questions can trigger students to conduct further research and find relevant answers to the context of the material being studied.

Based on the results of the research in the second cycle, there was an improvement in the quality of student learning in terms of cognitive levels. At level C1, there was a 36% improvement, indicating that students were able to understand basic concepts and apply them in simple situations (Bujuri, 2018). Meanwhile, at level C2, there was a 49% improvement, indicating that students were able to apply more complex concepts and solve more difficult problems. This shows significant progress in students' cognitive abilities and their ability to develop higher-level thinking strategies. Although the improvement in levels C3, C4, and C5 was not as significant, it still indicates an improvement and development in students' cognitive abilities. At level C3, students begin to combine concepts learned to solve more complex problems. At level C4, students begin to generalize these concepts to different situations. And at level C5, students are able to critically evaluate and analyze the information obtained (Bujuri, 2018).

In this case, the learning strategy applied in cycle II was proven effective in encouraging students to be more active and think at a higher level than before. This finding is consistent with the findings of

Sugianti et al. (2018) which state that problem-based learning models have a positive impact on students' higher-order thinking and questioning abilities. Based on observations and reflections in cycle II, it can be concluded that the implementation of literacy in narrative text using problem-based learning method successfully improved students' questioning and critical thinking skills. This is in line with the studies by Rohmah et al. (2022), Yoesoef (2015) and Sugianti et al. (2018) who all found the effectiveness of PBL in improving students' questioning abilities.

In cycle II, the reading material used in learning was specifically designed to encourage students to think critically and solve problems. This was evident from the reflection results which showed that the expected indicators for improving students' questioning skills had been achieved. In the implementation of this method, students were encouraged to play an active role in solving problems and finding solutions from the given reading material. Students were not only asked to understand the content of the reading material, but also to apply the concepts they had learned in more realistic situations. This encouraged students to think critically, develop analytical, synthesis, evaluation, and creativity skills.

CONCLUSION

Based on the research findings, it can be concluded that the Literacy in Narrative Text Using Problem-Based Learning method is effective in improving students' questioning skills. This can be seen from the increase in quantity and quality of questions asked by students in each learning cycle. In addition, there was an

improvement in students' cognitive levels from the first cycle to the second cycle, especially at levels C1 and C2. However, this research has a limitation in that it has not covered students' questioning skills at level C6. Therefore, it is recommended to conduct further research that can investigate students' questioning skills at level C6. Furthermore, future research can combine different teaching methods to find more effective methods for improving

students' questioning skills. In the context of implementation in the education world, the Literacy in Narrative Text Using Problem-Based Learning method can be used as an effective alternative teaching method to improve students' questioning and critical thinking skills. This is important in preparing students to face future challenges and can make a positive contribution to the world of education.

REFERENCES

- Ahmad, A., & Tetrasari, L. (2018). ... Kooperatif Tipe Think Pair and Share (Tps) Untuk Meningkatkan Keterampilan Siswa Menggali Informasi Dengan Pertanyaan Di Kelas *Jurnal Pendidikan Dasar (JUPENDAS)*, 5(2), 44–49. <http://jfkkip.umuslim.ac.id/index.php/jupendas/article/view/432%0Ahttp://jfkkip.umuslim.ac.id/index.php/jupendas/article/download/432/299>
- Aksela, M., & Haatainen, O. (2019). Project-based learning (PBL) in practise: Active teachers' views of its' advantages and challenges." *Integrated Education for the Real World (2019). Integrated Education for the Real World : 5th International STEM in Education Conference Post-Conference Proceedings*, 9–16. shorturl.at/hptFJ
- Apriza, B., & Mahmudi, A. (2015). Keefektifan Pendekatan Pbl dan Discovery Setting Tps Ditinjau Dari Prestasi, Kemampuan Berpikir Kritis, Dan Kepercayaan Diri Siswa [the Effectiveness of Pbl and Discovery Approach With Tps Setting on Students' Achievement, Critical Thinking Ability, and S. *Jurnal Pendidikan Matematika Dan Sains*, 3(2), 101–110.
- Ardila, A., & Hartanto, S. (2017). Analisis Faktor Yang Mempengaruhi Rendahnya Motivasi Belajar Siswa Pada Mata Pelajaran Matematik. *Pythagoras: Jurnal Program Studi Pendidikan Matematika*, 6(2), 175–186.
- Budiarti, S., Nuswowati, M., & Cahyono, E. (2016). Keterampilan Berpikir Kritis Info Artikel. *Journal of Innovative Science Education*, 5(2), 144–151. <http://journal.unnes.ac.id/sju/index.php/jise>
- Bujuri, D. A. (2018). Analisis Perkembangan Kognitif Anak Usia Dasar dan Implikasinya dalam Kegiatan Belajar Mengajar. *Literasi (Jurnal Ilmu Pendidikan)*, 9(1), 37. [https://doi.org/10.21927/literasi.2018.9\(1\).37-50](https://doi.org/10.21927/literasi.2018.9(1).37-50)
- Dewi, V. P., & Cirebon, U. M. (2018). *Interpersonal Pada Siswa Yang Memiliki*. 10(2), 105–114.
- Dolmans, D. H. J. M., Loyens, S. M. M., Marcq, H., & Gijbels, D. (2016). Deep and surface learning in problem-based learning: a review of the literature. *Advances in Health Sciences Education*, 21(5), 1087–1112. <https://doi.org/10.1007/s10459-015-9645-6>
- Fakhriyah, F. (2014). Penerapan problem based learning dalam upaya mengembangkan kemampuan berpikir kritis mahasiswa. *Jurnal Pendidikan IPA Indonesia*, 3(1), 95–101. <https://doi.org/10.15294/jpii.v3i1.2906>

- Herzamzam, D. A. (2021). Peningkatkan Motivasi dan Self Efficacy Belajar Matematika melalui Model Pembelajaran Berbasis Masalah pada Siswa Sekolah Dasar. *Jurnal Basicedu*, 5(4), 2133–2144. <https://doi.org/10.31004/basicedu.v5i4.1177>
- Irwandi, I., & Fajeriadi, H. (2020). Pemanfaatan Lingkungan sebagai Sumber Belajar untuk Meningkatkan Minat dan Hasil Belajar Siswa SMA di Kawasan Pesisir, Kalimantan Selatan. *BIO-INOVED : Jurnal Biologi-Inovasi Pendidikan*, 1(2), 66. <https://doi.org/10.20527/binov.v1i2.7859>
- Jannah, A. N., Yuliati, L., & Parno. (2016). Melalui Pembelajaran Inquiry Lesson Dengan Strategi Lbq. *Jurnal Pendidikan : Teori, Penelitian Dan Pengembangan*, 1(2), 409–420.
- Jatirahayu, W. (2013). Guru Berkualitas Kunci Mutu Pendidikan. *Jurnal Ilmiah Guru Caraka Olah Pikir Edukatif*, 0(0).
- Law, K. M. Y., Geng, S., & Li, T. (2019). Student enrollment, motivation and learning performance in a blended learning environment: The mediating effects of social, teaching, and cognitive presence. *Computers and Education*, 136(February), 1–12. <https://doi.org/10.1016/j.compedu.2019.02.021>
- Lestari, D. A. (2015). Pendekatan Saintifik Dalam Pembelajaran Tematik Untuk Meningkatkan Keterampilan Bertanya Siswa. *Jurnal Widyagogik*, 3(1), 66–79.
- Novera, E., Daharnis, D., Erita, Y., & Fauzan, A. (2021). Efektivitas Model Pembelajaran Kooperatif Tipe Course Review Horay dalam Peningkatan Aktivitas dan Hasil Belajar Matematika Siswa Sekolah Dasar. *Jurnal Basicedu*, 5(6), 6349–6356. <https://doi.org/10.31004/basicedu.v5i6.1723>
- Nurul Mahruzah Yulia, & Sutrisno. (2022). Keterampilan Bertanya dengan Pembelajaran PQ4R (Preview, Question, Read, Reflect, Recite, and Review). *Jurnal Riset Madrasah Ibtidaiyah (JURMIA)*, 2(2), 258–265. <https://doi.org/10.32665/jurmia.v2i2.514>
- Ramadhan, F., Mahanal, S., & Zubaidah, S. (2017). Kemampuan Bertanya Siswa Kelas X Sma Swasta Kota Batu Pada Pelajaran Biologi. *BIOEDUKASI (Jurnal Pendidikan Biologi)*, 8(1), 11. <https://doi.org/10.24127/bioedukasi.v8i1.831>
- Rasyid, Abdur . Gaffar, A. (2020). *Volume 4, Nomor 2, Januari 2020*. 4, 129–142.
- Rohmah, N., Widodo, S., & Katminingsih, Y. (2022). Meta Analisis: Model Pembelajaran PBL Terhadap Kemampuan Berpikir Kritis Matematis Siswa. *Jurnal Cendekia : Jurnal Pendidikan Matematika*, 6(1), 945–963. <https://doi.org/10.31004/cendekia.v6i1.1254>
- Royani, M., & Muslim, B. (2014). Keterampilan Bertanya Siswa SMP Melalui Strategi Pembelajaran Aktif Tipe Team Quiz pada Materi Segi Empat. *EDU-MAT: Jurnal Pendidikan Matematika*, 2(1), 22–28. <https://doi.org/10.20527/edumat.v2i1.586>
- Sapring, S. (2018). *Penelitian Tindakan Kelas*.
- Shofiyuddin, M., Sofiana, N., Andriyani, S., & Mubarak, H. (2023). Students' Perception Toward Merdeka Curriculum Implementation Through Project Based Learning In Speaking Class. P. 18.
- Sugianti, L., -, S., & Marhaeni, A. A. I. . (2018). Pengaruh Model Pembelajaran Berbasis Masalah Terhadap Kemampuan Berpikir Tingkat Tinggi Dan Kemampuan Menanya Dalam Pembelajaran Matematika Kelas V Sd. *PENDASI: Jurnal Pendidikan Dasar Indonesia*, 2(1), 35–46. <https://doi.org/10.23887/jpdi.v2i1.2691>
- Surya, A. P., Relmasira, S. C., & Hardini, A. T. A. (2018). Penerapan Model Pembelajaran Project Based Learning (PjBL) Untuk Meningkatkan Hasil Belajar

- Dan Kreatifitas Siswa Kelas III SD Negeri Sidorejo Lor 01 SALATIGA. *Jurnal Pesona Dasar*, 6(1), 41–54. <https://doi.org/10.24815/pear.v6i1.10703>
- Togatorop, K. H., & Sinuraya, J. (2019). Efek Model Problem Based Learning (PBL) terhadap Peningkatan Kemampuan Pemecahan Masalah Siswa. *Jurnal Ikatan Alumni Fisika Universitas Negeri Medan*, 5(4), 34–39.
- Wahyuni, D., & Setiyani, R. (2017). *Economic Education Analysis Journal. Economic Education*. 6(3), 669–682.
- Wiyarsi, A., & Priyambodo, E. (2011). Efektivitas penerapan penilaian proyek (project based assessment) pada pembelajaran kimia terhadap kemampuan berpikir kritis dan ketuntasan belajar kimia siswa SMA di Sleman. *Prosiding Seminar Nasional Kimia Unesa*, C-121-C-127. [http://staff.uny.ac.id/sites/default/files/penelitian/Erfan M.Si./penilaian proyek.PDF](http://staff.uny.ac.id/sites/default/files/penelitian/Erfan_M.Si./penilaian_proyek.PDF)
- Yoesoef, A. (2015). Penerapan Model Problem Based Learning untuk Meningkatkan Kemampuan Menanya dan Penguasaan Konsep Fisika Kelas X MIA 1 SMA Negeri 2 Kediri. *Jurnal PINUS*, 1(2), 96–102.
- Zein, R., & Maielfi, D. (2020). Penerapan keterampilan bertanya mahasiswa untuk stimulasi keterampilan berpikir tingkat tinggi (HOTS) anak TK. *Atfāluna: Journal of Islamic Early Childhood Education*, 3(1), 1–12. <https://doi.org/10.32505/atfaluna.v3i1.1644>
- Zuraida, F., Syamsu, F. D., & Tanjung, H. S. (2019). Analisis Ketrampilan Bertanya Siswa Smp Kelas Viii Pada Materi Sistem Pencernaan Melalui Pendekatan Studi Kasus Di Smpnegeri 5 Seunagan 1. *BIO Natural*, 6(1), 35–44.