# Problem Based Learning Strategy Models at Islamic Universities

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## ABSTRACT

This paper aims to analyze Problem-Based Learning (PBL) learning strategy models in Islamic universities. This study uses a qualitative method with a literature study approach, then analyzed starting from data reduction, data presentation, and drawing conclusions. To ensure valid data, this study uses source triangulation to find different gaps while obtaining accurate and consistent data. The findings indicate that the PBL learning model in Islamic universities is rooted in two main frameworks: the Problem-Based Learning model by Bransford and Stein and the Problem-Solving Learning model of the troubleshooting type proposed by David H. Jonassen. In its implementation, both models develop adaptively through self-directed learning, collaborative, and scaffolding approaches. Furthermore, this study provides a new contribution by showing that the implementation of PBL in Islamic universities is not only oriented towards cognitive aspects, but also integrates religious and ethical values in the learning process. These findings confirm that PBL is a flexible, contextual learning model, and has great potential in developing critical and reflective thinking skills, while also shaping students' character holistically.

**Keywords** : Learning Model, Problem Based Learning, Islamic University

## INTRODUCTION

Learning in Islamic higher education institutions is currently facing increasingly complex challenges, particularly in efforts to increase student engagement in class and the decline in critical thinking skills due to the rapid pace of everything (excessive use of social media). Despite the development of various learning breakthroughs and innovations, practical applications show that the learning process remains largely rigid, and students lack the capacity to explore new things independently. This condition will ultimately impact the low analytical skills, problem-solving skills, and higher-order thinking skills (HOTS), which should be the core competencies of students in the 21st century.[1]

Several studies have shown that many students still struggle to understand lecture material and are reluctant to express their opinions, let alone ask questions, during the learning process. [2]Another contributing factor to low student participation in the learning process is the use of learning models that lack variety and do not maximally encourage active student engagement. [3]Therefore, a learning approach is needed that can transform students' roles from objects of learning to active subjects during the learning process.

[1]Nisaul Barokati Selirowangi, Nur Aisyah, Lailatur Rohmah, and 1. "Implementation of Problem Based Learning Model to Improve Higher Order Thinking Skills (HOTS)." EDUKASIA: Journal of Education and Learning 5, no. 2 (2024): 32–40. https://doi.org/10.37304/jptm.v6i2.19693.

[2]Buyung, Buyung, and Alexon Alexon. "Implementation of Problem Based Learning (PBL) Model to Improve Student Learning Achievement." Scientific Journal of Batanghari Jambi University 22, no. 1 (2022): 100. https://doi.org/10.33087/jiubj.v22i1.2064

[3] Thomas Kemil Masi, Marai G. Moy, et al., "Efforts to Increase Student Participation Through Analysis of Problem Based Learning Planning by PPKn Lecturers," *JPK (Jurnal Pancasila and Citizenship)* 11, no. 1 (2026): 137.

In this context, the learning model becomes a crucial icon that determines the success of the learning process. The learning model itself is a conceptual framework that describes the systematic procedures for the learning process and determines the entire learning system. [4]Selecting the right learning model must consider the characteristics of the material, learning objectives, and student conditions to ensure optimal and comprehensive learning.

One of the many learning models considered relevant for students and able to address these challenges is problem-based learning (PBL). [5]According to Arends, as quoted by Astutik et al., that the PBL model emphasizes real problem-based learning which encourages students to think critically, analytically, and be able to solve problems independently and collaboratively.[6]

In fact, a number of studies have also tested the effectiveness of this PBL model, as explained by Mutia Riau Mita, KMA Fauzi that the PBL model is very effective in improving students' understanding of concepts and mathematics learning outcomes.[7] Other studies also show that the PBL model has strong potential to ensure that students have significant improvements in critical thinking aspects.[8]

Although the various findings above have proven the effectiveness of the PBL learning model in improving the quality of learning, most research focuses more on learning outcomes and improving students' critical thinking skills. This paper, however, attempts to specifically examine variations in the PBL learning model. which was initiated by Bransford and Stein and David H. Jonassen's *Trouble Shooting* type of *Problem Solving Learning* model and its comprehensive implementation in the context of learning at Islamic universities is still relatively limited. Furthermore, there has been little research that integrates PBL strategy analysis with the contextual learning characteristics of students at Islamic universities.

*Problem-Based Learning (PBL)* learning strategy models from the two experts mentioned above at the Islamic university level, along with their implementation in higher education. More importantly, this paper attempts to integrate various perspectives on the application of the PBL learning model, resulting in a more comprehensive understanding. The results of this study are expected to provide conceptual contributions that enrich the study of problem-based learning models. Furthermore, its practical contribution can serve as a reference for lecturers and educators in more appropriately selecting and implementing learning models in line with current learning challenges.

## RESEARCH METHODS

This research employed a qualitative method with a literature review approach. [9]This approach was chosen because the research focused on exploring the meaning, models, and strategies of *problem-based learning (PBL)* . Data sources were drawn from various scientific literature, including Google Scholar, accredited national journals (Sinta), and reputable

[4]Nurlina Ariani Hrp, et al. Learning and Teaching. I. Bandung: Widina Bhaktii Persada, 2022.

[5]Mayasari, Annisa, Opan Arifudin, and Eri Juliawati. "Implementation of Problem Based Learning (PBL) Model in Improving Learning Activeness." Tahsinia Journal 3, no. 2 (2022): 167–75. https://doi.org/10.57171/jt.v3i2.335.

[6]Astutik, Erna Wiji, Jusniar, and Masniaturofikoh. "Efforts to Increase Interest and Science Learning Outcomes Efforts to Increase Interest and Science Learning Outcomes Through Problem Based Learning Model." Educational Profession 2, no. 1 (2021): 115–26.

[7] Mutia Riau Mita, KMA Fauzi. "The Effectiveness of the Problem-Based Learning (PBL) Model in Improving Critical Thinking Skills of Grade VI Students of Sdn 001 Bagan Batu City." Pendas: Scientific Journal of Elementary Education, 10, no. 04 (2025): 230–43.

[8] Roudotul Uyun, "The Effectiveness of Problem Based Learning Model in Improving Students' Critical Thinking Skills," *BASICEDU JOURNAL* 9, no. 2 (2025): 393–400,

[9] Stiany Shalma Fahrurrozi, Yofita Sari, "Literature Study: Implementation of the Drill Method to Improve Elementary School Students' Mathematics Learning Outcomes," *Edukatif: Journal of Educational Sciences* 4, no. 3 (2022): 4325–36.

international journals. Additionally, data was obtained from books specifically discussing the PBL model.

This research was conducted since November 2025 using data collection techniques in the form of documents/libraries that specifically discuss the *problem based learning (PBL) learning model* . As for the data analysis stage, this study uses an analysis model initiated by Miles and Hubarmen which starts from the stage: 1) Data reduction, in the form of a process of selecting, focusing, and simplifying data that is focused on the topic raised. 2) Data presentation (data display), where the data obtained is arranged in a simple and in-depth narrative form. 3) Drawing conclusions and verification which aims to find patterns, themes, and *problem based learning (PBL) models* in Islamic higher education.[10]

To ensure valid and comprehensive data, this study employed source triangulation, which involved reading and analyzing various literature sources to identify gaps in the data from various perspectives, thereby achieving accurate and consistent data. [11]Furthermore, this study applied credibility criteria by ensuring that the sources used were from credible scientific publications and relevant to the aforementioned themes.

## RESULTS AND DISCUSSION

Based on the results of studies from various literature sources and conceptual analysis on the implementation of *the Problem Based Learning* (PBL) learning model in Islamic universities, two main frameworks were found, namely the PBL model developed by Bransford and Stein and the *Problem Solving Learning model of the troubleshooting* type proposed by David H. Jonassen. These two models serve as a conceptual foundation for understanding the flow of problem-based learning models constructed and implemented in each university.[12]

Bransford and Stein's model emphasizes a sequential process starting from: 1) identifying the problem, 2) determining a strategy to solve the problem, 3) providing ideas or solutions, 4) implementing them, and 5) evaluating the results. This model is oriented towards strengthening reflective thinking skills in making decisions in a measured and rational manner. Meanwhile, Jonassen's *troubleshooting model* emphasizes the process of diagnosing problems through testing possible causes, analyzing relationships between variables, and repeatedly evaluating solutions. This model is analytical and can be realized in complex problems that require accurate tracing of the causes and effects that arise.[13]

Although in general the two models above have different approaches, research results prove that substantively they have similarities. on the pedagogical structure. This can be reduced to five main stages as proposed by Hosnan, namely: 1) problem-oriented, 2) organizing learning, 3) providing guidance in investigations, 4) developing and presenting search results, 5) and evaluating the problem-solving process. [14]Thus, the variations in the PBL model are essentially within a single pedagogical framework that emphasizes problem-based learning as a means of developing students' higher-order thinking skills. This means

[10] BZN Muliaan, MH Ch Pandowo, and Mintardjo, "Evaluation of Reward Implementation on Employee Performance Improvement at Tepi Pantai Restaurant," *EMBA Journal* 12, no. 01 (2024): 145–50.

[11] Wiyanda Vera Nurfajriani et al., "Data Triangulation in Qualitative Data Analysis," *Jurnal Ilmiah Wahana Pendidikan* 10, no. 17 (2024): 826–33, https://jurnal.peneliti.net/index.php/JIWP.

[12]Nisa, Khoirun, and et al. "Problem Based Learning Model in Indonesian Language Subject Content in Elementary Schools, PGRI Semarang University." Jurnal Education, no. 02, Volume. 09 (nd).

[13]Sayrifuddin, K, SMK Learning Model with a Scientific Approach to Islamic Religious Education and Character Education Subjects, and Jambi. "No Title." Journal of Islamic Education Students, no. 01, Volume. 01 (nd).

[14]Ariz, Surya, and et al. "Using Problem Based Learning (PBL) Method Assisted by Audio Visual Method to Improve Mathematics Learning Outcomes of Elementary School Students, UKS Wacana." Journal of Elementary Education, no. 02, Volume. 04 (nd).

that students gain a comprehensive understanding and experience, both qualitatively and quantitatively.[15]

In the context of implementation at Islamic universities, these two models are not rigidly applied but rather adapted to student characteristics and academic culture. The analysis shows that PBL implementation in practice manifests itself in three main approaches: self *-directed learning* , *collaborative learning*, and *scaffolding* . These three approaches are not stand-alone models, but rather operational forms of the two previously mentioned main frameworks of the PBL learning model.

*Self-directed* approach *Learning* represents a PBL implementation that emphasizes student independence in managing the learning process. Through this approach, students actively identify problems, seek learning resources, and formulate solutions independently. [16]This approach aligns with the characteristics of the Bransford and Stein model, which emphasizes individual decision-making and reflection and is well-suited to an open academic culture.

Meanwhile, the collaborative approach reflects the implementation of PBL, which emphasizes group work and social interaction in building knowledge. [17]Arends believes that this approach encourages students to discuss, exchange ideas, and collectively construct solutions to strengthen the social dimension of problem-based learning, and this approach is already commonly used across universities.[18]

On the other hand, the *scaffolding approach* demonstrates that in certain contexts, particularly in learning environments still dominated by a *teacher-centered approach* , the role of the lecturer remains crucial as an active guide. [19]Lecturers provide guidance, prompting questions, and a gradual problem-solving structure to enable students to adapt to the problem-based learning model. [20]This approach is strongly linked to Jonassen's *troubleshooting model* , which emphasizes the process of diagnosis and guidance in finding solutions.[21]

Theoretically, this finding strengthens the constructivist view which positions students as active subjects in constructing knowledge through learning experiences while simultaneously forming students' intellectual autonomy.[22] Furthermore, the results of this study reinforce the concept of *student-centered learning* , which positions learning as an

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[15]Alvida, M, and et al. “Using Problem Based Learning (PBL) Learning Model to Improve Learning Outcomes of Fifth Grade Elementary School Students, Padang State University.” Journal of Elementary School Learning Innovation, no. 03, Volume 11 (nd).

[16] Willyansah Marisha Silta Fany, “Problem-Based Learning (PBL) as an Innovative Learning Strategy in Improving Students’ Cognitive Learning Outcomes in Biology Class XI.A2 of SMA Negeri 9 Pekanbaru,” *Jurnal Pendidikan Dirgantara* 2, no. 1 (2025): 29, 10.17977/um064v5i42025p476-484.

[17]Beni Adam, et al., Implementation of Project Based Learning Model Using Sketchup Media in Construction and Building Utilities Subject for Class XI at SMK Negeri 2 Bojonegoro. Surabaya State University, Journal, and

[18]Malikha, Dyan Rifiana. “PBL (Problem Based Learning) Learning Strategy as a Character-Based and Globally Insightful Learning Method.” In the 4th National Seminar on Citizenship Education, nd

[19]Nafisah Mala, Mu’tafi Ali, and Munawaroh Hidayat. “Implementation of Problem Based Learning (PBL) Model in Cultivating the Learning Spirit of Grade X Students in Aqidah Akhlak Learning at MA Takhassus Al-Qur’an 1 Mojotengah.” Jurnal Sains Student Research 3, no. 4 (2025): 736–46.

[20] Yohanes Purwanto et al., “Integration of Problem Based Learning and ZPD-Based Scaffolding on Prehistoric Cultural Material,” *Journal of Language, Literature, and Arts* 5, no. 4 (2025): 476–84, https://doi.org/10.17977/um064v5i42025p476-484.

[21]Purwati, Shovia Wahyu. “Problem Based Learning Model Learning Method in Improving 21st Century Skills of Students of SMPN 1 Kedungpring Lamongan, SMPN 1 Kedungpring Lamongan.” Journal of Social Science and Education, no. 02, Volume 03 (nd).

[22] Dwi Erlindatur Rohmah Alaika M. Bagus Kurnia PS, Sutikno, “Implementation of Problem Based Learning Model in Improving Scientific Literacy Culture of PAI Students of UIN Sunan Aampel Surabaya,” *JDPP Journal of Educational and Learning Dimensions* 11, no. 1 (2023): 195–205, https://doi.org/10.24269/dpp.v11i1.8417.

exploratory and reflective process. [23]However, this study demonstrates that PBL implementation cannot be separated from the context of academic culture and requires thorough preparation. PBL implementation, especially in environments not yet fully prepared for independent learning, requires adaptive strategies to be effective and achieve its objectives.[24]

Because maximum practice is determined by the readiness of the object of study and the educator so that it provides a positive learning experience while helping students internalize their knowledge, making students' knowledge permanent, stimulating their courage to learn, making decisions on concrete problems in everyday life, maintaining students' learning motivation, developing self-confidence, and increasing curiosity from within students.[25]

As research findings by Khairunnisa et al. show, the implementation of the PBL model can encourage students to become more independent in addressing problems. [26]Moreover, Muhamad Riyanto et al. see PBL as a learning model construction that can improve students' critical thinking skills and independence.[27]

Nevertheless, this study makes a new contribution by demonstrating that the implementation of PBL in Islamic universities is not solely cognitively oriented but also integrates religious and ethical values into the learning process. The issues raised in the learning process are not only academic and general in nature but also contextualized within socio-religious realities, complemented by the three approaches mentioned above, which are flexible and adaptable to the students' circumstances and needs.

Despite its numerous advantages, the implementation of the PBL learning model also faces several challenges. Students are sometimes hesitant to begin if they find it difficult. [28]Furthermore, the PBL learning model is procedural and systematic, requiring a long time.[29] thus reducing its effectiveness in achieving learning objectives. Therefore, the success of PBL implementation is determined not only by the model used, but also by the readiness of human resources and a supportive academic environment.[30]

Therefore, this study attempts to confirm that the Problem Based Learning model in higher education, especially Islamic universities, is conceptually rooted in two main frameworks, namely the Bransford and Stein model and the troubleshooting model from Jonassen, which in its implementation has developed into various adaptive approaches such as *self-directed learning* , *collaborative learning* , and *scaffolding* . These findings indicate

[23]Fatimah, et all, Learning and Teaching Strategies in Improving Language Skills, and Indraprasta PGRI University. “No Title.” Indonesian Language and Literature Education Journal, no. 02, Volume. 01 (nd).

[24]Octavia, Shilphy A. Learning Models, Cet. I, Yogayakarta: Deepublish, nd

[25] Nerlvianti, et al. “Characteristics of Problem Based Learning Model Assisted by Rumah Belajar E-Learning Portal in Thematic Science Learning, Padang State University.” Journal of Educational Pedagogy, no. 02, Volume. 18 (nd).

[26] Khairunnisa et al., “Problem Based Learning: Concept, Characteristics, and Foundations in Building 21st Century Competencies,” *Jurnal Edu Research Indonesian Institute For Corporate Learning And Studies (IICLS)* 6, no. 1 (2025): 2330–38,

[27] Muhamad Riyanto, Masduki Asbari, and Dahru Latif, “The Effectiveness of Problem Based Learning on Students’ Critical Thinking Skills,” *Journal of Information Systems and Management* 03, no. 01 (2024): 1–5.

[28] Fitria Nur Auliah, Natasya Febriyanti, and Tin Rustini, “Analysis of Teachers’ Obstacles in Implementing Problem Based Learning Model in Social Studies Learning for Grade IV at SDN 090 Cibiru Bandung,” *Journal on Education* 05, no. 02 (2023): 2025–33, website: http://jonedu.org/index.php/joe.

[29] Taty Sulastry et al., “The Effectiveness of Problem Based Learning Model on Acid-Base Material to Improve Student Learning Outcomes,” *Indonesian Journal of Science Education* 11, no. 1 (2023): 142–51, http://jurnal.unsyiah.ac.id/JPSI/index.

[30] Dasep Bayu Ahyar and et al., *Learning Models, First Edition* , Jakarta: CV. Pradina Pustaka, nd.

that PBL is a flexible, contextual learning model, and has great potential in developing critical thinking skills, reflection, and the formation of students' character holistically.[31]

**Implications of Research Results**

**Table 1.** Analysis of Problem Based Learning (PBL) Implementation in Islamic Higher Education

| Aspect | Core Findings | Meaning/Implications |
|---|---|---|
| Model Foundation | PBL has its roots in the Bransford & Stein (reflective) and Jonassen (analytical) models. | Problem-based learning is systematic and flexible |
| PBL Structure | Five stages: problem orientation, organization, investigation, presentation, evaluation | The variety of models remains within a single pedagogical framework. |
| Implementation | Three approaches: self-directed, collaborative, scaffolding | Adaptive learning according to student readiness |
| Output | Critical thinking, independence, problem solving + integration of religious values | Holistic formation of competence and character |
| Implications | Need support from lecturers, systems and academic culture | The success of PBL is determined by the readiness of the learning environment. |

The results of this study indicate that the implementation of the Problem Based Learning (PBL) model in Islamic higher education not only has implications for pedagogical aspects, but also has an impact on strengthening the cognitive, social, and character dimensions of students holistically. Pedagogically, the finding that the PBL model is rooted in two main frameworks, namely the Bransford and Stein model and the *troubleshooting model* of David H. Jonassen, implies that lecturers do not need to be trapped in one rigid model, but can integrate both within a flexible learning framework. This provides room for the development of adaptive learning designs according to student needs and the complexity of the material being taught.

Further implications are evident in strengthening student - *centered learning approaches* . Findings regarding three main approaches — *self-directed learning* , collaborative learning, and *scaffolding* —demonstrate that PBL can be contextually operationalized in various learning situations. In this context, lecturers act not only as passive facilitators but also as strategic mentors capable of adjusting the level of intervention based on student readiness. Thus, the learning process becomes more dynamic, non-uniform, and able to accommodate differences in student abilities and backgrounds.

Furthermore, this research also has implications for the development of students' higher-order thinking skills. Through systematic PBL stages, students are trained to identify problems, analyze cause and effect, and formulate solutions reflectively and rationally. This results in improved critical thinking skills, independent learning, and self-confidence in addressing real-world problems. These implications are crucial, especially in facing the challenges of the modern world, which demand strong adaptive and problem-solving skills.

In the context of Islamic higher education, the findings of this study offer more specific implications, namely the integration of problem-based learning with religious and ethical values. PBL serves not only as a means of cognitive development but also as a medium for internalizing Islamic values contextualized to social realities. Thus, learning produces not

[31]Alvida, M, and et al. "Using Problem Based Learning (PBL) Learning Model to Improve Learning Outcomes of Fifth Grade Elementary School Students, Padang State University." Journal of Elementary School Learning Innovation, no. 03, Volume 11 (nd).

only intellectually intelligent students but also students with moral awareness and social responsibility.

However, the practical implications of this research also emphasize the importance of human resource and academic environment preparedness in supporting PBL implementation. Lecturers need to be competent in designing problem-based learning scenarios, while students need to be equipped with the skills to learn independently. Furthermore, institutions need to provide systemic support, including curriculum, learning time, and an academic culture that encourages exploration and dialogue. Without such preparedness, PBL implementation has the potential to be suboptimal and actually hinder the achievement of learning objectives.

Overall, this research implies that Problem-Based Learning is a flexible, contextual, and strategic learning model for improving the quality of education in Islamic higher education. Its implementation not only contributes to the development of critical and reflective thinking skills but also to the formation of independent, adaptive, and integrated student character, making it relevant to addressing the challenges of education in the contemporary era.

## CONCLUSION

Based on the research results above, it shows that the *problem-based learning model* for Islamic universities is guided by two main frameworks, namely the *Problem Based Learning model* from Bransford and Stein and the *Problem Solving Learning* Type *Trouble Shooting model* of David H. Jonassen which have similar problem-based pedagogical structures. In the implementation aspect, both *problem-based learning models* develop adaptively through *self-directed learning* , collaborative, and *scaffolding approaches* . The orientation of the use of this PBL model is very effective in improving students' critical thinking skills while integrating socio-religious values. However, success in its implementation depends on student readiness, lecturer competence, and institutional support. Overall, PBL is a flexible and contextual learning model in the development of learning in Islamic universities.

## REFERENCES

Ahyar, Dasep Bayu, and et al. *Learning Models*, 1st ed., Jakarta: CV. Pradina Pustaka, nd

Alaika M. Bagus Kurnia PS, Sutikno, Dwi Erlindatur Rohmah. “Implementation of Problem Based Learning Model in Improving Scientific Literacy Culture of PAI Students of UIN Sunan Aampel Surabaya.” *JDPP Journal of Dimensions of Education and Learning* 11, no. 1 (2023): 195–205. https://doi.org/10.24269/dpp.v11i1.8417

Nerlvianti, et all. “Characteristics of Problem Based Learning Model Assisted by Rumah Belajar E-Learning Portal in Thematic Science Learning, Padang State University.” *Journal of Educational Pedagogy* , no. 02, Volume. 18 (nd).

Alvida, M, and et al. “Using Problem Based Learning (PBL) Learning Model to Improve Learning Outcomes of Fifth Grade Elementary School Students, Padang State University.” *Journal of Elementary School Learning Innovation* , no. 03, Volume. 11 (nd).

Ariz, Surya, and et al. “Using Problem Based Learning (PBL) Method Assisted by Audio Visual Method to Improve Mathematics Learning Outcomes of Elementary School Students, UKS Wacana.” *Journal of Elementary Education* , no. 02, Volume. 04 (nd).

Astutik, Erna Wiji, Jusniar, and Masniaturofikoh. “Efforts to Increase Interest and Science Learning Outcomes Efforts to Increase Interest and Science Learning Outcomes Through Problem Based Learning Model.” *Educational Profession* 2, no. 1 (2021): 115–26.

Auliah, Fitria Nur, Natasya Febriyanti, and Tin Rustini. “Analysis of Teachers’ Obstacles in Implementing Problem Based Learning Model in Social Studies Learning for Grade IV

at SDN 090 Cibiru Bandung." *Journal on Education* 05, no. 02 (2023): 2025–33.

Buyung, Buyung, and Alexon Alexon. "Implementation of Problem Based Learning (PBL) Learning Model to Improve Student Learning Achievement." *Scientific Journal of Batanghari Jambi University* 22, no. 1 (2022): 100. https://doi.org/10.33087/jiubj.v22i1.2064

Beni Adam, et al., *Implementation of Project Based Learning Model Using Sketchup Media in Construction and Building Utilities Subject for Class XI at SMK Negeri 2 Bojonegoro* . Surabaya State University, Journal, and

Fahrurrozi, Yofita Sari, Stiany Shalma. "Literature Study: Implementation of the Drill Method to Improve Elementary School Students' Mathematics Learning Outcomes." *Edukatif: Journal of Educational Sciences* 4, no. 3 (2022): 4325–36.

Fatimah, et all, Learning and Teaching Strategies in Improving Language Skills, and Indraprasta PGRI University. "No Title." *Indonesian Language and Literature Education Journal* , no. 02, Volume. 01 (nd).

Khairunnisa, et al. "Problem Based Learning: Concept, Characteristics, and Foundations in Building 21st Century Competencies." *Journal of Edu Research Indonesian Institute for Corporate Learning and Studies (IICLS)* 6, no. 1 (2025): 2330–38.

Malikha, Dyan Rifiana. "PBL (Problem Based Learning) Learning Strategy as a Character-Based and Globally Insightful Learning Method." In *the 4th National Seminar on Citizenship Education* , nd

Marisha Silta Fany, Willyansah. "Problem-Based Learning (PBL) as an Innovative Learning Strategy in Improving Students' Cognitive Learning Outcomes in Biology Class XI.A2 of SMA Negeri 9 Pekanbaru." *Journal of Aerospace Education* 2, no. 1 (2025): 29. https://doi.org/10.17977/um064v5i42025p476-484

Mayasari, Annisa, Opan Arifudin, and Eri Juliawati. "Implementation of Problem Based Learning (PBL) Model in Improving Learning Activeness." *Tahsinia Journal* 3, no. 2 (2022): 167–75. https://doi.org/10.57171/jt.v3i2.335

Muliaan, BZN, MH Ch Pandowo, and Mintardjo. "Evaluation of Reward Implementation on Employee Performance Improvement at Tepi Pantai Restaurant." *Jurnal Emba* 12, no. 01 (2024): 145–50.

Mutia Riau Mita, KMA Fauzi. "The Effectiveness of the Problem-Based Learning (PBL) Model in Improving Critical Thinking Skills of Grade VI Students of Sdn 001 Bagan Batu City." *Pendas: Scientific Journal of Elementary Education,* 10, no. 04 (2025): 230–43.

Nafisah Mala, Mu'tafi Ali, and Munawaroh Hidayat. "Implementation of Problem Based Learning (PBL) Model in Cultivating the Learning Spirit of Grade X Students in Aqidah Akhlak Learning at MA Takhassus Al-Qur'an 1 Mojotengah." *Jurnal Sains Student Research* 3, no. 4 (2025): 736–46.

Nisa, Khoirun, and et al. "Problem Based Learning Model in Indonesian Language Subject Content in Elementary Schools, PGRI Semarang University." *Jurnal Education* , no. 02, Volume. 09 (nd).

Nisaul Barokati Selirowangi, Nur Aisyah, Lailatur Rohmah, and 1. "Implementation of Problem Based Learning Model to Improve Higher Order Thinking Skills (HOTS)." *EDUKASIA: Journal of Education and Learning* 5, no. 2 (2024): 32–40. https://doi.org/10.37304/jptm.v6i2.19693

Nurfajriani, Wiyanda Vera, Muhammad Wahyu, Ilhami Arivan, Rusdy Abdullah Sirodj, and M Win Afgani. "Data Triangulation in Qualitative Data Analysis." *Wahana Pendidikan Scientific Journal* 10, no. 17 (2024): 826–33.

Nurlina Ariani Hrp, et al. *Learning and Teaching* . I. Bandung: Widina Bhaktii Persada, 2022.

Octavia, Shilphy A. *Learning Models, Cet* . I, Yogayakarta: Deepublish, nd

Purwanto, Yohanes, Indah Wahyu, Puji Utami, and M Hari Efendi. "Integration of Problem Based Learning and ZPD-Based Scaffolding on Prehistoric Cultural Material." *Journal of Language, Literature, and Arts* 5, no. 4 (2025): 476–84. https://doi.org/10.17977/um064v5i42025p476-484

Purwati, Shovia Wahyu. "Problem Based Learning Model Learning Method in Improving 21st Century Skills of Students of SMPN 1 Kedungpring Lamongan, SMPN 1 Kedungpring Lamongan." *Journal Of Social Science And Education* , no. 02, Volume. 03 (nd).

Riyanto, Muhamad, Masduki Asbari, and Dahru Latif. "The Effectiveness of Problem Based Learning on Students' Critical Thinking Skills." *Journal of Information Systems and Management* 03, no. 01 (2024): 1–5.

Sayrifuddin, K, SMK Learning Model with a Scientific Approach to Islamic Religious Education and Character Education Subjects, and Jambi. "No Title." *Journal of Islamic Education Students* , no. 01, Volume. 01 (nd).

Taty Sulastry, et al. "The Effectiveness of Problem Based Learning Model on Acid-Base Material to Improve Student Learning Outcomes." *Indonesian Journal of Science Education* 11, no. 1 (2023): 142–51.

Thomas Kemil Masi, Marai G. Moy., et al. "Efforts to Increase Student Participation Through Problem Based Learning Planning Analysis by PPKn Lecturers." *JPK (Jurnal Pancasila and Citizenship)* 11, no. 1 (2026): 137.

Uyun, Roudotul. "The Effectiveness of Problem Based Learning Model in Improving Students' Critical Thinking Skills." *Basicedu Journal* 9, no. 2 (2025): 393–400.