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The Effect of the Technology-Based Problem-Based Learning (PBL) Model on the Learning Outcomes of Fiqh Subject

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Abstract: Technology integration in education has become crucial in enhancing student engagement and learning outcomes, especially in Islamic studies such as Fiqh. Conventional teaching methods often fail to engage students, effectively leading to suboptimal learning achievements. This study addresses the issue by investigating the impact of a Nearpod-based Problem-Based Learning (PBL) model on students' performance in Fiqh lessons, specifically at MTs Al-Ma'arif Badung Bali. The research fills a gap in the application of interactive technology-integrated pedagogies within Islamic education, aiming to improve understanding and motivation. The study employed a Non-Equivalent Pretest-Posttest Control Group Design using a quantitative experimental approach. Sixty-three students participated and were divided into experimental and control groups through purposive sampling. Data collection involved tests, interviews, and documentation, analyzed using t-tests following normality and homogeneity testing. Key findings reveal a significant improvement in learning outcomes post-intervention. The experimental group taught using the Nearpod-based PBL model, achieved an average score of 73.44 compared to 61.41 in the pre-intervention phase. The significance value of 0.000 indicates a notable positive effect of the intervention. These results suggest that incorporating interactive technology and problem-based approaches enhances student engagement, critical thinking, and understanding of Fiqh concepts. This study underscores the potential of innovative teaching methods in transforming Islamic education. By leveraging technology, educators can bridge the gap between traditional practices and modern educational demands, fostering a more interactive and practical learning environment. The findings contribute to the growing discourse on integrating digital tools into pedagogical practices and highlight the need for broader implementation in diverse educational contexts.

Keywords: Problem Based Learning Model, Nearpod Technology, Learning Outcomes, Fiqh.

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INTRODUCTION

Indonesia, as a developing country, faces significant challenges in responding to the demands of globalization and technological advancements. One sector that has been notably affected is education.[1] In the era of modernization, the integration of technology in education has become crucial to enhance the quality of learning.[2] Technology provides opportunities for educators and students to explore new, innovative, engaging, and effective methods and approaches.[3] For instance, Generation Z students, who are tech-savvy, require learning models that are relevant and aligned with their characteristics. On the other hand, educators must also adapt to the rapid pace of technological advancements to create learning environments that foster 21st-century skills such as critical thinking, creativity, collaboration, and communication.[4][5]

In this context, innovation in teaching methods is essential to accommodate the need for more effective and engaging learning. Therefore, teachers must be able to adjust to the characteristics of students who are familiar and accustomed to using technology-based learning models.[6] The competencies that students need to develop in 21st-century education are the 4Cs: Critical Thinking-Problem Solving, Creativity-Innovation, Communication, and Collaboration.[7] One approach that can be implemented is Problem-Based Learning (PBL). The PBL model not only emphasizes the transfer of knowledge from teacher to student but also encourages students to actively search for solutions to real-world problems, thereby enhancing their critical and creative thinking skills. However, despite the many benefits offered by the PBL model, its implementation in Islamic education, particularly in the teaching of fiqh at madrasahs, remains limited and is rarely carried out optimally.[8]

Problem-Based Learning (PBL) has been shown to improve learning outcomes in various settings. Research in Citizenship Education classes demonstrated significant improvements, with student performance rising from 40% to 94.28% after two cycles of PBL implementation.[9] At the elementary school level, learning outcomes also increased from 53.33% to 86.66% after

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[1] Saiful Rizal, Nurul Yakin, and Saparudin Saparudin, "Implementasi Tpack Dalam Peningkatan Keaktifan Siswa Pada Pembelajran Pai Di Smkn 5 Dan Man 2 Mataram," *Jurnal Ilmiah Mandala Education* 9, no. 2 (2023).

[2] Inge Kurnia Mardia Lestyaningrum et al., *Pendidikan Global Berbasis Teknologi Digital Di Era Milenial* (Unisri Press, 2022).

[3] Joko Suyamto, Mohammad Masykuri, and Sarwanto Sarwanto, "Analisis Kemampuan Tpack (Technolgical, Pedagogical, and Content, Knowledge) Guru Biologi Sma Dalam Menyusun Perangkat Pembelajaran Materi Sistem Peredaran Darah," *Inkuiri: Jurnal Pendidikan IPA* 9, no. 1 (2020): 44–53.

[4] M. Shoffa Saifillah Al Faruq et al., "Enhancing Educational Quality through Principals' Human Resources Management Strategies," AL-ISHLAH: Jurnal Pendidikan 16, no. 2 (June 25, 2024): 1108–17, https://doi.org/10.35445/alishlah.v16i2.5042.

[5] Makherus Sholeh, Nur Kholis, and Nuril Mufidah, "Madrasah Principal Leadership in Digital Transformation at Madrasah Ibtidaiyah: A Case Study," Dinamika Ilmu, June 24, 2022, 151–66, https://doi.org/10.21093/di.v22i1.4241.

[6] Moch. Rizal Fuadiy, M. Asep Fathur Rozi, and Siti Marpuah, "SEM Model to Assess the Impact of Mobile Gaming on Islamic Education Learning," Journal of Educational Research and Practice 2, no. 2 (July 26, 2024): 51–70, https://doi.org/10.70376/jerp.v2i2.195.

[7] Sri Subekti, *Mencetak Generasi Cerdas Melalui Pembelajaran Berpikir Kritis* (Surabaya: Pusaka Media Guru, 2018), 2.

[8] Rusman, *Model-Model Pembelajaran Mengembangkan Profesionalisme Guru*, Cet V (Jakarta: PT Raja Grafindo Persada, 2014), 229.

[9] Anisa Putri Ardana, Salman Salman, and Sakban Sakban, "Peningkatan Hasil Belajar Siswa Dengan Menggunakan Model Problem Based Learning (PBL) Pada Mata Pelajaran PKN Kelas V SD Negeri 15 Pekanbaru," *Perspektif : Jurnal Pendidikan Dan Ilmu Bahasa* 2, no. 3 (July 18, 2024): 157–62, https://doi.org/10.59059/perspektif.v2i3.1499.

applying this method.[10] PBL also enhances critical thinking and problem-solving skills, as evidenced by a study involving Islamic boarding school students and a remote PBL module during the COVID-19 pandemic.[11] Furthermore, PBL promotes active student engagement in the learning process, as reflected in a study in a biology class, where students became more independent and gained a better understanding of the material.[12] This method also strengthens collaboration among students, as they work together to solve complex problems.[13] However, challenges such as designing appropriate problems and the difficulty of understanding complex modules in distance learning require further attention.[14]

Problem-Based Learning (PBL) encourages active student engagement by connecting learning with real-world problems, which fosters creativity and critical thinking.[15] This model transforms the role of the teacher into a facilitator, assigning students responsibility for their learning process while helping to develop independent problem-solving skills.[16] PBL also enhances students' ability to solve problems through a systematic approach, deepening the application of the scientific method in learning.[17] Moreover, PBL has proven effective in improving learning outcomes, with significant increases in knowledge and problem-solving skills across various subjects.[18] Meta-analyses also show a highly positive impact on science learning, making it an essential approach for 21st-century education.[19] While effective, the implementation of PBL requires special attention to maintain student engagement and address challenges such as passivity and dependence on traditional methods.[20]

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[10] Lisa Yana and Wati Oviana, "Problem Based Learning: A Learning Model to Improve Student Learning Outcomes," *Indonesian Journal of Education and Social Humanities* 1, no. 1 (March 31, 2024): 19–27, https://doi.org/10.62945/ijesh.v1i1.24.

[11] Kah Choon Low et al., "Improving University Students' Critical Thinking and Problem-Solving Skills: How Problem-Based Learning Works during COVID-19 Pandemic?," *Journal of Advanced Research in Applied Sciences and Engineering Technology* 37, no. 2 (January 16, 2024): 165–76, https://doi.org/10.37934/araset.37.2.165176.

[12] Evenia Tambunan et al., "Analisis Penerapan Model Pembelajaran Problem Based Learning Pada Pelajaran Biologi Materi Sistem Ekskresi Kelas X SMA Negeri 4 Binjai: (Analysis of the Application of the Problem Based Learning Model in Biology Lessons on the Excretory System Material for Class High School 4 Binjai)," *BIODIK* 10, no. 2 (June 3, 2024): 172–80, https://doi.org/10.22437/biodik.v10i2.33934.

[13] Anisa Putri Ardana, Salman Salman, and Sakban Sakban, "Peningkatan Hasil Belajar Siswa Dengan Menggunakan Model Problem Based Learning (PBL) Pada Mata Pelajaran PKN Kelas V SD Negeri 15 Pekanbaru."

[14] Kah Choon Low et al., "Improving University Students' Critical Thinking and Problem-Solving Skills."

[15] Taty Sulastry*, Nur Afifah Rais, and Netti Herawati, "Efektivitas Model Pembelajaran Problem Based Learning Pada Materi Asam Basa Untuk Meningkatkan Hasil Belajar Peserta Didik," *Jurnal Pendidikan Sains Indonesia* 11, no. 1 (January 19, 2023): 142–51, https://doi.org/10.24815/jpsi.v11i1.28787.

[16] Aura Khansa Balqist et al., "Penerapan Model Pembelajaran Problem Based Learning (PBL) Untuk Meningkatkan Pengetahuan Siswa Pada Materi Keselamatan Dan Kecelakaan Kerja (K3) Di SMK Negeri 1 Dlanggu," *Journal on Education* 6, no. 1 (July 12, 2023): 7234–47, https://doi.org/10.31004/joe.v6i1.3954.

[17] Salima Zai, Ratna Natalia Mendrofa, and Yulisman Zega, "Application of the Problem Based Learning Learning Model to Improve the Mathematical Problem Solving Ability of State Junior High School Students 4 Hilissekai for the 2021/2022 Academic Year," *AURELIA: Jurnal Penelitian Dan Pengabdian Masyarakat Indonesia* 2, no. 2 (July 4, 2023): 920–26, https://doi.org/10.57235/aurelia.v2i2.583.

[18] Abdul Rahman et al., "Effectiveness of Problem-Based Learning Model in Science Learning: A Meta-Analysis Study," *JUARA : Jurnal Olahraga* 8, no. 2 (July 10, 2023): 713–26, https://doi.org/10.33222/juara.v8i2.3128.

[19] Rahman et al.

[20] Balqist et al., "Penerapan Model Pembelajaran Problem Based Learning (PBL) Untuk Meningkatkan Pengetahuan Siswa Pada Materi Keselamatan Dan Kecelakaan Kerja (K3) Di SMK Negeri 1 Dlanggu."

Technology integration in fiqh education at madrasahs holds great potential to enhance educational outcomes; however, challenges such as limited resources and resistance to change still hinder its implementation. Technology, particularly ICT, can support independent learning and provide access to a variety of educational resources, which have been shown to improve academic performance.[21] Additionally, the application of AI in fiqh education has also demonstrated positive effects, enhancing student understanding and engagement.[22] The further implementation of Problem-Based Learning (PBL) strengthens fiqh instruction by promoting active participation and critical thinking skills among students, as reflected in improved N-Gain scores.[23] owever, the main obstacles to the implementation of technology and PBL in madrasahs are the limited resources and inadequate teacher training.[24] Furthermore, resistance to change from traditional teaching practices also presents a significant challenge. To overcome these barriers, it is recommended to provide adequate technological resources, enhance professional development for teachers, and adapt the curriculum to incorporate digital tools and more interactive PBL strategies.[25]

The existing reality shows that many schools and madrasahs have incorporated technology into their teaching, yet the use of technology in fiqh subjects remains limited.[26] For example, at MTs Al-Ma'arif in Badung, Bali, although equipped with facilities such as LCD projectors and computer labs, the use of technology in fiqh instruction has not been optimized. This is due to teachers' tendency to continue using conventional teaching methods, which fail to fully maximize students' potential in understanding more complex subjects like fiqh. Monotonous and unengaging teaching methods can reduce student interest and motivation, ultimately affecting their learning outcomes. Furthermore, although fiqh contains many practical issues highly relevant to daily life, many students still struggle to comprehend fiqh material through the existing methods. This indicates a gap between the teaching approach used and the needs and characteristics of students, who are more accustomed to the use of technology in their daily lives. Therefore, there is an urgent need to introduce more innovative teaching models and make more effective use of technology in the teaching of fiqh.

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[21] Sualeha Zafar, Farzana Shaheen, and Haleema Zikria, "The Role of ICT's in Madrasa Education: Opportunities and Challenges," *Journal of Asian Development Studies* 13, no. 3 (September 1, 2024): 792–803, https://doi.org/10.62345/jads.2024.13.3.65.

[22] Tholkhatul Khoir et al., "Enhancing Fiqh Learning Outcomes through Artificial Intelligence Applications at Sekolah Indonesia Johor Bahru," *Edelweiss Applied Science and Technology* 8, no. 4 (September 12, 2024): 1764–77, https://doi.org/10.55214/25768484.v8i4.1551.

[23] Risma Br Purba, Ali Imran Sinaga, and Haidir, "The Developing a Fiqh Student Worksheet Based on Problem-Based Learning to Improving Critical Thinking Skills," *JIE (Journal of Islamic Education)* 9, no. 1 (April 3, 2024): 309–25, https://doi.org/10.52615/jie.v9i1.395.

[24] Andri Sungkowo et al., "Promote Innovation In Madrasah Through The Use Of Educational Technology," *IJGIE (International Journal of Graduate of Islamic Education)* 5, no. 1 (May 7, 2024): 71–81, https://doi.org/10.37567/ijgie.v5i1.2815.

[25] Zafar, Shaheen, and Zikria, "The Role of ICT's in Madrasa Education."

[26] Ramdanil Mubarok, Makherus Sholeh, and Ika Irayana, "Classroom Management Strategy in Implementing the Merdeka Curriculum (Independent Curriculum) in Primary Education Institutions," Al-Adzka: Jurnal Ilmiah Pendidikan Guru Madrasah Ibtidaiyah 13, no. 2 (December 31, 2023): 189–202, https://doi.org/10.18592/aladzkapgmi.v13i2.11356.

The purpose of this study is to identify and test the impact of the technology-based Problem-Based Learning (PBL) model using Nearpod on students' learning outcomes in fiqh at MTs Al-Ma'arif, Badung, Bali. This study aims to bridge the gap between the need for engaging and innovative technology-based learning and the reality of conventional methods used in fiqh education. By integrating technology with the problem-based learning model, it is hoped that students will become more active, creative, and critical in learning fiqh, and gain a deeper understanding of the material. Additionally, it is expected that students' learning outcomes will improve significantly, which in turn could enhance the quality of education at the madrasah and better prepare students to face the challenges of an advancing era.

RESEARCH METHOD

This study employs a quantitative approach with a Non-Equivalent Pretest-Posttest Control Group Design. The quantitative approach was chosen because the study aims to collect concrete data that can be analyzed using statistical methods, with the objective of determining the impact of the technology-based Problem-Based Learning (PBL) model using Nearpod on students' learning outcomes in fiqh at MTs Al-Ma'arif, Badung, Bali. The population in this study consists of all 156 students at MTs Al-Ma'arif, with a sample of 63 seventh-grade students selected through purposive sampling. This technique was chosen because the seventh-grade students possess characteristics that align with the research objectives, making the results more representative.

The research procedure begins with administering a pretest to assess the students' initial abilities before the implementation of the learning model. Following this, the technology-based Problem-Based Learning (PBL) model using Nearpod[27] is applied in fiqh instruction. After the learning process is completed, a posttest is conducted to measure changes in students' learning outcomes following the implementation of the model. The tests are designed to assess students' learning outcomes, with both the pretest and posttest structured according to the material covered.[28] To analyze the data obtained from the pretest and posttest, the study uses an Independent Sample t-test[29] to determine whether there are significant differences in students' learning outcomes before and after the implementation of the learning model. Data analysis is conducted using SPSS (Statistical Package for the Social Sciences)[30] software to ensure valid and accurate results.

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[27] Andi Tahta Perlawanan, Jusniar Jusniar, and Ahmad Fudail Madjid, "The Effect of Nearpod Interactive Media in the Discovery Learning Model on the Learning Outcomes of Class XI MIA MAN 4 Bone Students (Study on Acid-Base Subject Matter)," *UNESA Journal of Chemical Education* 11, no. 3 (September 29, 2022): 220–26, https://doi.org/10.26740/ujced.v11n3.p220-226.

[28] Joakim Caspersen, Jens-Christian Smeby, and Per Olaf Aamodt, "Measuring Learning Outcomes," *European Journal of Education* 52, no. 1 (March 2017): 20–30, https://doi.org/10.1111/ejed.12205.

[29] Amanda Ross and Victor L. Willson, "Independent Samples T-Test," in *Basic and Advanced Statistical Tests*, by Amanda Ross and Victor L. Willson (Rotterdam: SensePublishers, 2017), 13–16, https://doi.org/10.1007/978-94-6351-086-8_3.

[30] Lokesh Jasrai, *An Introduction to Data Analysis Using IBM SPSS*, 1st ed. (London: Routledge India, 2024), https://doi.org/10.4324/9781003541578.

RESULTS AND DISCUSSION

Here are the results of the normality test, homogeneity test, and hypothesis test for the study titled The Effect of the Problem-Based Learning (PBL) Model Based on Nearpod Technology on Learning Outcomes in Fiqh at MTs Al-Ma'arif Badung Bali:

Table 1. Results of the Normality Test

	Kolmogrov-Smirnov			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Pretest Kontrol	0.133	31	0.177	0.944	31	0.103
Posttest Kontrol	0.146	31	0.092	0.932	31	0.051
Pretest Eksperimen	0.166	29	0.040	0.943	29	0.118
Posttest Eksperimen	0.106	32	0.200	0.976	32	0.683

Since the sample size in each class is less than 100, the normality test results are shown in the Shapiro-Wilk column. Based on the results of the Shapiro-Wilk test, all data follow a normal distribution. The pretest for the control class yielded a significance value of 0.103 > 0.05. The posttest for the control class yielded a significance value of 0.051 > 0.05. The pretest for the experimental class yielded a significance value of 0.118 > 0.05. The posttest for the experimental class yielded a significance value of 0.683 > 0.05. Therefore, all data are normally distributed.

Table 2. Results of the Homogeneity Test

		Levence Statistic	df1	df2	Sig.
Posttest Result	Based on Mean	1.280	1	61	0.262
	Based on Median	0.772	1	61	0.383
	Based on Median and with adjusted df	0.772	1	59.554	0.383
	Based on trimmed mean	1.090	1	61	0.301

Based on Table 2, the significance value for the posttest is 0.301 > 0.05. Homogeneity testing was conducted using a one-way ANOVA, with the decision rule that if the significance value is > 0.05, the data are considered homogeneous.[31] Therefore, it can be concluded that the control and experimental classes have the same variance, indicating that the data are homogeneous.

The decision rule for the independent sample t-test is as follows: if the significance value is <0.05, the null hypothesis (H_0) is rejected and the alternative hypothesis (H_a) is accepted. Conversely, if the significance value is > 0.05, the null hypothesis is accepted and the alternative hypothesis is rejected (Riyanto & Hatmawan, 2020). Based on Table 3, the results of the independent sample t-test using SPSS version 25 show a significance value of 0.000. Since 0.000 < 0.05, it can be concluded that H_0 is rejected and H_a is accepted, meaning there is an effect of the technology-based Problem-Based Learning (PBL) model using Nearpod on the learning outcomes of fiqh among students at MTs Al-Ma'arif Badung Bali.

[31] I Wayan Widana and Ni Putu Lia Muliani, "Uji Persyaratan Analisis," 2020.

Table 3. Results of the Independent Sample T-Test

		Levene's Test for Equality of Variances		T-test for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig.	T	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	lower	upper
Hasil Posttest	Equal Variances Assumed	1.280	0.262	-3.991	61	0.000	-9.889	2.528	-14.945	-4.834
	Equal Variances not assumed			-3.903	59.251	0.000	-9.889	2.534	-14.959	-4.819

Students' Learning Outcomes Before the Implementation of the Technology-Based Problem-Based Learning (PBL) Model in Fiqh at MTs Al-Ma'arif Badung Bali

Before the implementation of the technology-based Problem-Based Learning (PBL) model using Nearpod, students' learning outcomes in fiqh were suboptimal. The initial evaluation, conducted through a test, showed that no student scored above the Minimum Mastery Criteria (KKM). Based on the descriptive analysis of the experimental class, the total score was 1965, with an average score of 61.41, categorized as "fairly good." The minimum score was 40, while the maximum score was 76. Many students struggled to understand the basic concepts of fiqh, particularly in the area of compulsory prayer (shalat), which includes understanding the fundamentals, conditions, pillars, time, procedures, recitations, things that are considered disliked (makruh), prohibited (haram), and the wisdom behind prayer. This indicates that the teaching methods previously used might not have been effective enough in facilitating students' understanding. This is further supported by the theory of Anderson and Krathwohl (2001), which asserts that deep understanding of a concept is necessary for students to apply the knowledge in a broader context.[32] Students' inability to grasp the basic concepts of fiqh created a gap between the expected and actual knowledge acquired.

One of the factors contributing to the low learning outcomes is the conventional, one-way teaching method. According to Jonassen (2000), learning that is dominated by lectures can hinder student engagement and reduce motivation. In the context of fiqh education, a teaching method that does not actively involve students makes them more passive and less motivated to understand the material. Based on interviews with several students, some expressed feeling bored and uninterested in the subject; they felt disengaged from the learning process. The dominant lecture method led students to listen more than to participate actively. This lack of engagement resulted in low learning motivation, with students perceiving fiqh lessons as less interesting and less relevant to their lives. Furthermore, the lack of modern technology in teaching is another factor that dampens students' enthusiasm, as the current generation is very familiar with digital

[32] Rafiq Badjeber and Jayanti Putri Purwaningrum, "Pengembangan Higher Order Thinking Skills Dalam Pembelajaran Matematika Di SMP," *Guru Tua: Jurnal Pendidikan Dan Pembelajaran* 1, no. 1 (2018): 36–43.

technology. Thus, the classroom phenomenon of passivity directly impacts their learning outcomes.

Another challenge is the gap between students' expectations of fiqh learning and the reality they experience. Many students expect a more interactive and applied learning experience, which they do not find in conventional teaching methods. Students prefer methods that allow them to collaborate, discuss, and apply the concepts learned in real-life situations. This creates an urgent need to shift the teaching approach to better align with students' expectations and needs.

By understanding the condition of students' learning outcomes before the implementation of the PBL model, it is crucial to design a teaching method that better aligns with students' needs. This study aims to explore how the application of the technology-based PBL model using Nearpod can improve learning outcomes by creating a more interactive and relevant learning environment. Through this approach, students can become more engaged in the learning process, gain a deeper understanding of fiqh concepts, and ultimately achieve better learning outcomes.

This is in line with QS. Taha, verse 114:

فَتَعَٰلَى ٱللَّهُ ٱلۡمَلِكُ ٱلۡحَقُّۗ وَلَا تَعۡجَلۡ بِٱلۡقُرۡءَانِ مِن قَبۡلِ أَن يُقۡضَىٰٓ إِلَيۡكَ وَحۡيُهُۥۖ وَقُل رَّبِّ زِدۡنِي عِلۡمٗا

"So exalted is Allah, the True King, and do not hasten to recite the Qur'an before its revelation is completed to you. And say, 'My Lord, increase me in knowledge." (QS. Taha: 114).[33]

In this verse, Allah SWT commands Prophet Musa to ask for an increase in knowledge. This highlights the importance of knowledge in the life of a Muslim. The verse underscores the significance of seeking knowledge and understanding in Islam. Prayer and other forms of worship must not only be performed but also properly understood. In the context of fiqh education, this verse emphasizes the necessity of a deep understanding of religious teachings so that they can be applied in daily life.

By implementing an effective teaching model such as Problem-Based Learning, students are encouraged to actively seek and understand the material,[34] in accordance with the command in this verse. Considering that knowledge is the light that illuminates the path of life, an interactive learning approach can help students develop a better understanding of fiqh concepts, such as compulsory prayer (shalat fardhu). As a result, through this enhanced understanding, students will not only perform worship correctly but also experience the meaning and relevance of these teachings in their lives

[33] Lajnah Pentashihan Mushaf al Quran, Al Quran Dan Terjemahannya (11-20), Al-Qur'an Dan Terjemahannya Edisi Penyempurnaan 2019, 2019.

[34] Sofyan Susanto, "Efektifitas Small Group Discussion Dengan Model Problem Based Learning Dalam Pembelajaran Di Masa Pandemi Covid-19," *Jurnal Pendidikan Modern* 6, no. 1 (2020): 55–60.

Students' Learning Outcomes After the Implementation of the Technology-Based Problem-Based Learning (PBL) Model in Fiqh Education at MTs Al-Ma'arif Badung Bali

After the implementation of the technology-based Problem-Based Learning (PBL) model, students' learning outcomes in the subject of fiqh, specifically on the topic of compulsory prayer (shalat fardhu), showed a significant improvement. Based on the results of the descriptive analysis in the experimental class, a total score of 2350 was obtained, with an average score of 73.44, categorized as good. The minimum score was 55, while the maximum score was 95. Post-implementation evaluations showed that several students achieved scores above the Minimum Completion Criteria (KKM), indicating improvement after the intervention. These results are supported by Piaget's (1976) constructivist theory, which emphasizes that learning involving active experience and social interaction enhances students' understanding of the material.[35] With PBL, students not only learn theory but also apply their knowledge in real-life situations, making the learning experience more meaningful.

One of the key factors contributing to the improvement in learning outcomes is the interactive nature of the PBL model used. According to Jonassen (2000), problem-based learning allows students to collaborate in solving relevant challenges, which in turn increases their engagement in the learning process.[36] In the context of using the Nearpod technology, students can participate in interactive quizzes and group discussions that facilitate a better understanding of fiqh concepts. These activities not only make students more active but also enhance their critical thinking and problem-solving skills. In addition to academic improvement, positive changes were also observed in students' motivation and attitudes towards learning fiqh. The Learning Motivation Theory by Deci and Ryan (2000) suggests that intrinsic motivation, which arises when students feel interested and engaged in what they are learning, can enhance learning outcomes.[37] Based on interviews with students, after the implementation of the PBL model, students reported feeling more motivated and enthusiastic to learn because they perceived the relevance of fiqh material in their daily lives. This indicates that the teaching model successfully created a supportive learning environment that fostered students' curiosity.

This is in line with QS. Al-Mujadalah, verse 11:

يَرْفَعِ ٱللَّهُ ٱلَّذِينَ ءَامَنُوا مِنكُمْ وَٱلَّذِينَ أُوتُوا ٱلْعِلْمَ دَرَجَٰتٍ ۚ وَٱللَّهُ بِمَا تَعْمَلُونَ خَبِيرٌ

"Indeed, Allah will raise those who have believed among you and those who have been given knowledge, by degrees. And Allah is All-Aware of what you do." (QS. Al-Mujadalah, 58:11)[38]

In this verse, Allah SWT promises an elevation in rank for those who believe and those who possess knowledge. This signifies that knowledge holds great value in Islam. The verse

[35] Hari Wibowo, *Pengantar Teori-Teori Belajar Dan Model-Model Pembelajaran* (Puri cipta media, 2020).
[36] Nursantalia Habeahan, Gres Novelita Pakpahan, and Damayanti Nababan, "Pembelajaran Berbasis Masalah Dan Perencanaan Kurikulum," *Jurnal Magistra* 2, no. 1 (2024): 19–23.
[37] Hafsyah Damayanti, Naulia Naulia Rizky, and Khotna Sofiyah, "Pengaruh Apresiasi Dan Motivasi Dalam Meningkatkan Minat Belajar Siswa Madrasah Ibtidaiyah Kelas Rendah," *LANCAH: Jurnal Inovasi Dan Tren* 2, no. 2b (2024): 829–34.
[38] Lajnah Pentashihan Mushaf al Quran, Al Quran Dan Terjemahannya (11-20), Al-Qur'an Dan Terjemahannya Edisi Penyempurnaan 2019, 2019.

emphasizes the importance of knowledge and education in enhancing a Muslim's self-improvement. In the context of the improved learning outcomes after the implementation of the Problem-Based Learning (PBL) model, this verse becomes highly relevant. Through the interactive and practical approach enabled by Nearpod technology, students not only acquire knowledge but also experience the positive impact of this learning in their daily lives.

The increase in student motivation and positive attitudes toward fiqh learning reflects how they begin to appreciate the knowledge they are gaining. When students feel engaged and find relevance in the material, as explained in Deci and Ryan's motivation theory, they become more motivated to learn. Therefore, this verse serves as a reminder that the pursuit of knowledge is part of devotion to Allah, and through knowledge, a Muslim can elevate their status in His presence. The PBL model applied not only assists students in understanding fiqh concepts but also contributes to their spiritual and intellectual growth.

Effectiveness of the Problem-Based Learning (PBL) Model Based on Nearpod Technology on Learning Outcomes in Fiqh Subjects at MTs Al-Ma'arif Badung Bali

The statistical analysis conducted in this study used the t-test method to test the hypothesis with a significance level of $\alpha = 0.05$. Prior to performing the t-test, expert validity, normality, and homogeneity tests were conducted. This step was taken because the primary requirement for hypothesis testing is to ensure that the data is normally distributed. The expert validity test for the pretest and posttest instruments of Fiqh material on the topic of Sholat Fardhu, using the Problem-Based Learning (PBL) model in both the control and experimental classes, yielded a validity score of 75%. According to the validation criteria table, a percentage of 70.01% to 85% indicates that the instrument is considered sufficiently valid. The calculation results showed a validity score of 75%, which means that the instrument is valid for use, although it requires some revisions.

Regarding the normality test, the Shapiro-Wilk test was used because the sample sizes in both groups were less than 100. The normality test results for Fiqh learning outcomes showed the following significance values: pretest for the control group = 0.103, posttest for the control group = 0.051, pretest for the experimental group = 0.118, and posttest for the experimental group = 0.683. Since all significance values are greater than 0.05, the data in all groups is normally distributed.

The homogeneity test was performed using a one-way ANOVA test, which showed that the variances of the samples in both groups were homogeneous, with a significance value of 0.301, which is greater than the significance level of 0.05. The hypothesis test results indicated a significant improvement in Fiqh learning outcomes in both the control and experimental groups. The paired sample t-test output showed that both groups (the control group without treatment and the experimental group with treatment) had significance values of 0.000, which is smaller than 0.05. This indicates that there was an improvement in the learning outcomes for both groups. However, the improvement in the experimental group, which used the Problem-Based Learning (PBL) model based on Nearpod technology, was higher than that of the control group, which only used the conventional teaching model. The total score for the pretest in the control group was 1748, and the posttest score for the control group was 1970, with a range of 222

between the two values. In contrast, the pretest total score for the experimental group was 1965, and the posttest score for the experimental group was 2350, with a range of 385 between the two values.

Based on the data from each class, the experimental group that was given the PBL treatment using Nearpod technology showed a larger improvement in learning outcomes. Furthermore, the independent sample t-test showed a significance value of 0.000, which is less than 0.05. This means that the null hypothesis (Ho) is rejected, and the alternative hypothesis (Ha) is accepted, indicating a significant effect of the Problem-Based Learning (PBL) model based on Nearpod technology on Fiqh learning outcomes at MTs Al-Ma'arif Badung, Bali. This positive effect is crucial, especially in the context of education at MTs Al-Ma'arif Badung, Bali, where innovative and interactive teaching methods can enhance student engagement in the learning process. The results of this study not only emphasize the effectiveness of the PBL model but also highlight the importance of integrating technology into the learning process to improve students' understanding and academic achievement. Therefore, these findings provide a strong foundation for educators to continue developing and applying teaching methods that align with students' needs, ultimately creating a more effective and engaging learning environment.

The results of this study are consistent with previous research conducted by Triono[39], which found a significant difference in learning outcomes between students using the Problem-Based Learning (PBL) model and those using the conventional teaching model. The class that implemented the PBL model had a higher average score. Tiara Zulfa[40] also stated that the hypothesis testing using the paired sample t-test yielded a significance value (2-tailed) of 0.000 < 0.05, indicating that the use of the Problem-Based Learning (PBL) model had a significant effect on students' learning outcomes.

This result is supported by the theory of Saodih, who stated that the appropriate teaching model plays a crucial role in achieving the learning objectives of Islamic Religious Education (PAI), particularly in Fiqh. The effectiveness of the teacher is measured by their preparation, implementation, and evaluation of the learning process.[41] By applying the Problem-Based Learning (PBL) model integrated with Nearpod technology, teachers can achieve the desired learning outcomes. Therefore, it is important to observe the characteristics of students and the teaching material so that the delivery of content can be adjusted to make it more easily understood. In this case, the researcher selected the topic of *Fiqh* on obligatory prayers (shalat fardhu), which students can later practice in their daily lives. Mioduser & Betzer also argued that the Problem-Based Learning model has a positive effect on student groups, such as increasing students' motivation to learn,[42] which in turn improves their learning outcomes. When teachers

[39] Triono Djonomiarjo, "Pengaruh Model Problem Based Learning Terhadap Hasil Belajar," *Aksara: Jurnal Ilmu Pendidikan Nonformal* 5, no. 1 (2020): 39–46.

[40] Tiara Zulfa, Tursinawati Tursinawati, and Said Darnius, "Pengaruh Model Problem Based Learning (PBL) Terhadap Hasil Belajar IPA Siswa Di Sekolah Dasar," *Jurnal Basicedu* 7, no. 4 (2023): 2098–2107.

[41] Nana Saodih Sukamdinata, *Pengembangan Kurikulum Teori Dan Praktek* (Bandung: Remaja Rosda Karya, 2006). hlm. 191

[42] Dewi Insyasiska, Siti Zubaidah, and Herawati Susilo, "Pengaruh Project Based Learning Terhadap Motivasi Belajar, Kreativitas, Kemampuan Berpikir Kritis, Dan Kemampuan Kognitif Siswa Pada Pembelajaran Biologi," *Jurnal Pendidikan Biologi Universitas Negeri Malang* 7, no. 1 (2017): 118842. hlm. 15.

successfully apply the Problem-Based Learning model, students are more motivated and gain more knowledge compared to conventional teaching methods.

Students are also able to identify problems in their surroundings and relate the learning content to current developments, including through direct observation. When students are grouped together,[43] they can witness real-life situations that become valuable learning experiences. Arends states that motivation increases when students work in groups, which helps them understand the material, especially when it comes to complex topics such as the material on obligatory prayers (*shalat fardhu*). The PBL model encourages students to organize group learning, conduct research, engage in discussions, and synthesize information together with the teacher.

The material on obligatory prayers (*shalat fardhu*) explains that the word "shalat" means prayer or worship, while "fardhu" means obligatory. In Arabic, "fardhu" (فَرْض) refers to something that must be done and cannot be neglected. Sholat fardhu is the prayer that every Muslim is required to perform at specific times each day. There are five obligatory prayers that must be performed daily: *Fajr*, *Dhuhr*, *Asr*, *Maghrib*, and *Isha*. Sholat fardhu is one of the five pillars of Islam that signifies submission and servitude to Allah. This obligation is outlined in the Qur'an and the Sunnah of the Prophet Muhammad (SAW), and neglecting it without a valid Islamic reason is considered a major sin. As Allah SWT says in QS. Al-Baqarah, verse 43:

وَأَقِيمُوا ٱلصَّلَوٰةَ وَءَاتُوا ٱلزَّكَوٰةَ وَٱرْكَعُوا مَعَ ٱلرَّٰكِعِينَ

"And establish the prayer, give the zakat, and bow down with those who bow down."

This verse emphasizes the importance of performing prayer and giving zakat, two of the five fundamental pillars of Islam. Prayer (*Shalat*) is an obligatory act of worship for every Muslim, serving as a means of submission to Allah and a way to draw closer to Him. In the context of this verse, the command to "establish the prayer" signifies that prayer is not merely a ritual but an obligation that must be upheld in daily life. Furthermore, the phrase "bow down with those who bow down" underscores the significance of performing prayers in congregation, which strengthens both the social and spiritual bonds among the Muslim community.

With the implementation of the Problem Based Learning model based on Nearpod technology, the material on obligatory prayers (*Shalat fardhu*) becomes easier to understand. This approach can enhance students' interest and motivation, which generally will grow and develop effectively. A supportive and conducive learning environment is crucial in fostering students' interest and motivation to learn. Additionally, developing good study habits at home is also important. Therefore, the school environment plays a significant role, second only to the family environment. With an engaging teaching model like Problem Based Learning based on Nearpod technology, students are more likely to develop a greater love for learning and demonstrate high levels of interest and motivation in studying the material on obligatory prayers (*Shalat fardhu*).

[43] Richard I Arends, *Learning to Teach* (Boston: McGraw-Hill International Edition, 2009).

CONCLUSION

This study shows that before the implementation of the Problem Based Learning (PBL) model based on Nearpod technology, students' learning outcomes in Islamic Studies (*fiqh*) were still low, with an average score of 61.41 and no students achieving the Minimum Mastery Criteria (KKM). The conventional method previously used led to a lack of student engagement and motivation, creating a gap between students' expectations and the reality of the learning process. After the implementation of the PBL model based on Nearpod, students' learning outcomes significantly improved, with the average score reaching 73.44, and several students successfully surpassing the KKM. Statistical tests using paired sample t-tests and independent sample t-tests indicated that the application of the PBL model had a significant positive impact on students' learning outcomes, with a significance value of 0.000. This improvement aligns with Piaget's constructivist theory, which emphasizes the importance of active experience and social interaction in learning. These findings underscore that innovative, technology-based teaching models can create a more interactive learning environment, enhance students' critical thinking skills, and improve their motivation to learn.

The implications of these findings highlight the importance of integrating technology in the teaching of Islamic Studies (*fiqh*) to create a more engaging and relevant learning experience, especially considering students' familiarity with technology. The PBL model based on Nearpod technology has proven to be effective in increasing student engagement, promoting collaboration, and deepening their understanding of *fiqh* material. Therefore, this study encourages educators to consider implementing the PBL model as a more effective teaching strategy, not only in *fiqh* but also in other subjects, by utilizing technology to support more interactive learning and skills-based education for the 21st century.

However, this study has several limitations, such as the sample being limited to a single school in Bali, which may restrict the generalization of the findings to other schools with different contexts. Additionally, this study did not explore other factors that could influence learning outcomes, such as individual student characteristics, teacher competencies, and other supporting technological facilities. Therefore, further research with a larger sample size and contextual variation is needed to explore the effects of technology-based PBL models on students' learning outcomes and other aspects of the learning process.

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