Ta'dibuna Jurnal Pendidikan Islam
P-ISSN: 2252-5793
E-ISSN: 2622-7215
Vol. 14, No. 5, Oktober 2025, hlm. 633-654
DOI: 10.32832/tadibuna.v14i5.21443
http://ejournal.uika-bogor.ac.id/index.php/TADIBUNA/

Learning Strategy: The Utilization of AI as a Learning Tool for PAI Students in the Digital Era

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Abstract

This study analyzes learning strategies and the use of Artificial Intelligence (AI) as a means of learning for students majoring in Islamic Religious Education (PAI) in the digital era. Using the Mixed Method method with the Sequential Exploratory Design approach, this study involved 72 PAI students at the State Islamic University of North Sumatra. Quantitative data were collected through a survey with a Likert scale and analyzed using SPSS version 27, while qualitative data was obtained through in-depth interviews with four students. The results showed a positive and strong correlation between learning strategies and the use of AI (r = 0.714, p < 0.05), with learning strategies contributing 51% to the use of AI as a means of learning. Qualitative findings reveal significant variations in lecturers' pedagogical practices, especially in the aspects of learning perception (58.3% positive), presentation of learning objectives (40% consistent), material review (66.6% positive), method variation (61.1% positive), and learning evaluation (68.1% positive). Students showed a positive perception of active participation (84.7%) and the opportunity to express opinions (80.6%), but there were still inconsistencies in the systematics of the presentation of material (58.3% positive with 26.4% neutral). This study concludes that effective learning strategies are an important foundation for the optimal use of AI technology in PAI learning, with the urgent need for standardization of pedagogical practices, improvement of lecturers' digital competencies, and the development of learning models that integrate Islamic values with technological advancements

Keywords: *Learning Strategies; Utilization of AI; Learning Tools; PAI Student.*

Abstrak

Penelitian ini menganalisis strategi pembelajaran dan pemanfaatan Artificial Intelligence (AI) sebagai sarana pembelajaran mahasiswa jurusan Pendidikan Agama Islam (PAI) di era digital. Menggunakan metode Mixed Method dengan pendekatan Sequential Exploratory Design, penelitian ini melibatkan 72 mahasiswa PAI di Universitas Islam Negeri Sumatera Utara. Data kuantitatif dikumpulkan melalui survei dengan skala Likert dan dianalisis menggunakan SPSS versi 27, sementara data kualitatif diperoleh melalui wawancara mendalam dengan empat mahasiswa. Hasil penelitian menunjukkan korelasi positif dan kuat antara strategi pembelajaran dengan pemanfaatan AI (r = 0,714, p < 0,05), dengan strategi pembelajaran memberikan kontribusi sebesar 51% terhadap pemanfaatan AI sebagai sarana pembelajaran. Temuan kualitatif mengungkap variasi signifikan dalam praktik pedagogis dosen, khususnya dalam aspek apersepsi pembelajaran (58,3% positif), penyajian tujuan pembelajaran (40% konsisten), review

Diserahkan:14-09-2025 **Disetujui**: 14-09-2025. **Dipublikasikan**: 02-11-2025

Kutipan: Nasution, A. F. (2025). Learning Strategy: The Utilization of AI as a Learning Tool for PAI Students in the Digital Era. Ta'dibuna Jurnal Pendidikan Islam, 14(5), 633–654. https://doi.org/10.32832/tadibuna.v14i5.21443

materi (66,6% positif), variasi metode (61,1% positif), dan evaluasi pembelajaran (68,1% positif). Mahasiswa menunjukkan persepsi positif terhadap partisipasi aktif (84,7%) dan kesempatan mengekspresikan pendapat (80,6%), namun masih terdapat inkonsistensi dalam sistematika penyajian materi (58,3% positif dengan 26,4% netral). Penelitian ini menyimpulkan bahwa strategi pembelajaran yang efektif menjadi fondasi penting bagi pemanfaatan optimal teknologi AI dalam pembelajaran PAI, dengan kebutuhan mendesak untuk standardisasi praktik pedagogis, peningkatan kompetensi digital dosen, dan pengembangan model pembelajaran yang mengintegrasikan nilai-nilai Islam dengan kemajuan teknologi.

Kata kunci : Strategi Pembelajaran; Pemanfaatan AI; Sarana Pembelajaran; Mahasiswa PAI.

I. Introduction

In the development of a nation's civilization, education plays a very important and fundamental role, especially the role of teachers as irreplaceable central figures (Rahmatullah & Syafri, 2025). The digital era has brought fundamental changes to various aspects of life, including in the world of education. The rapidly developing information and communication technology revolution is driving the transformation of the learning process from conventional models to technology-based learning (Damayanti et al., 2024). One of the most significant technological advances in recent years is the development of Artificial Intelligence (AI) which is now increasingly integrated in various sectors, including education. AI is a subfield of computer science dedicated to understanding human thought processes and creating their effects through information systems. The primary goal of AI is to create intelligent systems (i.e., computer programs or machines) capable of performing intelligent behaviors, including learning, reasoning, problem-solving, perception, and creation (Wang et al., 2024). In educational settings, AI has the potential to revolutionize conventional teaching methodologies by offering personalized learning experiences that meet the unique needs of each student (Herawati et al., 2024). The concept of AI is gradually entering the field of education. Initially, this was known as AI literacy which refers to the ability to understand, use, monitor, and critically reflect on AI applications without having to be able to develop the AI model itself (Muhammad Tahir et al., 2024).

AI brings benefits and opportunities to the world of education by facilitating the personalization of learning, providing instant feedback and increasing efficiency in the assessment process (Rochmawati et al., 2023). Thus, artificial intelligence can be integrated into online learning platforms, so that content and activities can be tailored to each student's needs and knowledge level. Learning management systems can use artificial intelligence to provide personalized recommendations, automated feedback, and monitor student progress. Thus, pupils and students can access relevant materials and resources according to their respective needs. Virtual reality can also help students encourage collaboration and teamwork, and tools such as social media can be used to connect students with their peers and instructors (Erbas & Maksuti, 2024). Manyika et

al. (2017) emphasized that good teachers will continue to exist in the future, teaching classes designed to improve students' affective intelligence, creativity, and communication. In fact, according to these authors, the development of artificial intelligence and automation will make 'humans more human'. When discussing educational research on artificial intelligence (Gocen & Aydemir, 2020).

Islamic Religious Education (PAI) plays an important role in shaping the religious identity and morality of Muslims in various parts of the world (Rahmadani, 2024). AI technology allows students to access various sources of knowledge about Islamic religious education and know various approaches (Sodikin, 2024). The integration of AI technology in PAI learning opens up opportunities and raises questions about how the technology can be optimally utilized without overriding the essence of the values taught. By adopting AI technology, it can create a more interactive, adaptive, and beneficial learning environment for learners. In addition, this study shows that the use of AI in Islamic religious learning has the potential to improve religious understanding, encourage critical learning, and strengthen moral values in the context of Islamic religious education. Therefore, AI integration can be a strong foothold to develop Islamic religious education that is of higher quality and relevant to the times (Nurhayati et al., 2024).

Research shows that the current generation of students are digital natives who have been accustomed to technology since an early age. According to the 2023 survey of the Indonesian Internet Service Providers Association (APJII), internet usage penetration among students reached more than 95%, with an average usage duration of more than 7 hours a day. This data indicates the high dependence of students on digital technology in their daily activities, including in the learning process (Indonesia, 2024). Although 95% of students are active internet users (APJII, 2023), it is not yet known exactly how PAI students utilize AI technology—which is now easily accessible through various platforms such as ChatGPT, Google Gemini, and others—in their learning. An in-depth understanding of usage patterns, perceptions of effectiveness, and challenges faced by students in integrating AI into their study routines is required.

On the other hand, universities still face various obstacles, such as limited face-to-face time, diversity in students' understanding of religious materials, and teaching methods that tend to be conventional. This has the potential to cause less than optimal achievement of learning objectives, especially in forming a comprehensive understanding and appreciation of Islamic values among students. Initial observations show inconsistencies in the quality of learning in the PAI department, where not all lecturers apply optimal, adaptive, and effective learning strategies. This gap has the potential to hinder the achievement of student competencies in the digital era. PAI learning has unique characteristics that distinguish it from other disciplines, namely the

emphasis on value transmission, character building, and spiritual guidance that requires humanistic interaction between lecturers and students.

Based on the above problems, a learning strategy is needed. According to Dick and Carey in Wahyudin Nur Nasution who said that the teaching and learning strategy includes all learning components that aim to create a form of learning with certain conditions in order to help the learning process of students (Nasution, 2017). Dick and Carey (1996: 184) stated that there are 5 components of learning strategies, namely preliminary learning activities, information delivery, student participation, tests and follow-up activities (Nasution, 2017). The strategy of utilizing AI as a means of learning as an opportunity to overcome these various obstacles. AI in its various forms, such as adaptive systems, chatbots, and learning content recommendation systems, can provide a more personalized, interactive, and flexible learning experience. However, the implementation of AI in learning also raises various issues that need to be studied in depth, such as how to ensure the accuracy of religious content generated by AI, how to align the use of AI with learning approaches centered on Islamic values, and how to develop appropriate AI utilization strategies to achieve learning goals comprehensively.

Based on these conditions, research on strategies for the use of AI as a means of learning in the digital era has become very relevant and urgent to be carried out such as Chatgpt, Gemini AI, POP AI and CANVA. This research will not only examine the potential and challenges of the use of AI in learning, but also develop appropriate implementation strategies in accordance with the characteristics of PAI majors and the needs of students in the digital era.

II. Research Method

The research method applied is Mixed Method with the Sequential Exploratory Design approach. Blended research is a class of research studies in which a researcher mixes or combines quantitative and qualitative research approaches and techniques in a single research study. Proponents believe that mixed research helps improve the overall quality of research (Christensen, 2014). The data collection was carried out in a qualitative method by means of interviews, observations, and documentation. Then it was carried out with a quantitative method by taking a survey "learning strategy: the use of AI as a means of learning for PAI students in the Digital Era. The research location is at the State Islamic University of North Sumatra (UINSU) at the Faculty of Tarbiyah and Teacher Training in the Department of Islamic Religious Education (PAI), the sample of this research is 72 students majoring in PAI. The data collection technique was carried out by collecting instruments and interviews. Quantitative data analysis was assisted by the spss version 27 application using simple correlation and regression. This study uses quantitative data to measure the level of perception in general, while qualitative data provides a richer and deeper nuance and understanding of the respondents' subjective

experiences. The research design uses a sequential exploratory approach, where quantitative data is collected and analyzed first, followed by qualitative data analysis through open-ended questions and observations.

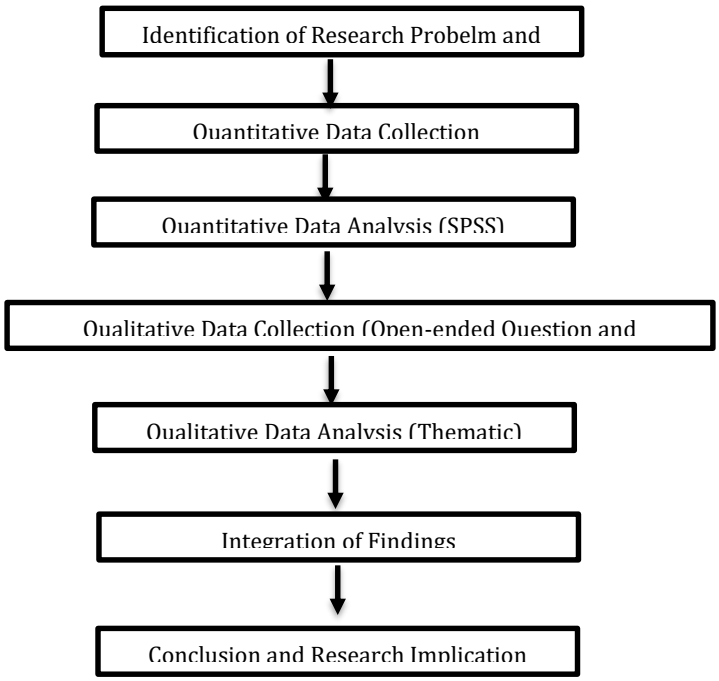

Figure 1. Research Process

The questionnaire is divided into two parts. The first part of the question is presented using a 5-point Likert scale (1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree). These questions are designed to measure respondents' perceptions of learning strategies and the use of AI as a means of learning. For respondents, the confidentiality of the respondents is maintained to ensure that the answers given are objective and honest. Data processing for the first part using the Likert scale with Statistical

Product and Service Solution (SPSS) for descriptive analysis. For the second part, thematic analysis will be used. This involves reading the data thoroughly and repeatedly, identifying interesting patterns or ideas, grouping them by similar code, defining each theme as needed, and presenting qualitative research results with direct quotes from respondents. With this analysis, it is hoped that the data obtained can provide a useful picture for policymakers.

III. Result and Discussion

In the first part, the findings will be presented using data processed with Statistical Product and Service Solutions (SPSS). The findings are presented in descriptive form and

tables for ease of understanding. The results of interesting and relevant aperceptive findings can be seen in the following table,

Correlation of Learning Strategies and the Utilization of AI as a Means of Learning

Based on the results of the calculations, it was found that

Table 1 Correlation Learning Strategies and The Utilization of AI

Correlations			
		X	**Y**
X	Pearson Correlation	1	.714**
	Sig. (2-tailed)		.000
	N	72	72
Y	Pearson Correlation	.714**	1
	Sig. (2-tailed)	.000	
	N	72	72
****. Correlation is significant at the 0.01 level (2-tailed).**			

The table above shows that the significance of the Learning Strategy and the use of AI as a means of learning is that there is a significant relationship between learning strategies and the use of AI as a means of learning for PAI students. 0,00 <0,05In addition, the correlation value of the two variables is 0.714 which states that it has a strong correlation or relationship. This means that learning strategies and the use of AI as a means of learning have a positive and strong relationship or correlation.

A. The Influence of Learning Strategies on The Utilization of AI as a Means of Learning

The t-test is used to test the influence of partially, how each independent variable (X) affects the dependent variable (Y). This test uses the criterion that if the calculation > table, then Ha is accepted and H0 is rejected or the free variable has a significant influence on the bound variable. And if < table, then Ha is rejected and H0 is accepted, or the free variable has no significant influence on the bound variable. The price level used is 95%, then the value of α = 0.05 and the size of the table, is searched based on the formula df = n-k, where n = the number of respondents while k = the number of variables (free + bound). So, df = 72 - 2 = 60, ttable is 1.667. Based on the calculations presented in the following table.

Table 2. The Influence of Learning Strategies on The Utilization of AI as a means of Learning

Coefficients[a]								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	11.497	3.920		2.933	.005		

	X	.511	.060	.714	8.537	.000	1.000	1.000
a. Dependent Variable: Y								

The buyer service variable has a probability value of 0.000 < 0.05, meaning significant. Meanwhile, the value of the price variable calculation is 8,537 > 1,667 table, so it can be concluded that hypothesis Ha is accepted and H0 is rejected, meaning that the learning strategy variable has a positive effect on the use of AI as a means of learning in the PAI department.

B. Coefficient Dtermination Test (R^2)

The coefficient of determination (R^2) essentially measures the size of the model's willingness to explain the bound variable. If R^2 is getting larger (closer to one), then it can be said that the influence of the free variable is as great as on the bound variable. This means that the model used is getting stronger to explain the influence of free variables on bound variables. While R^2 (close to zero) can be interpreted as the influence of the free variable (X) on the bound variable (Y) is getting smaller, meaning that the model used is not strong to explain the influence of the free variable on the bound variable. The calculation results show that

Table 3. Coefficient Determination (R^2)

Model Summary[b]					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.714[a]	.510	.503	8.352	2.039
a. Predictors: (Constant), X					
b. Dependent Variable: Y					

From the table above, it shows that the value of R = 0.714 or R^2 (R Square) = 0.51. This means that the regression model obtained is able to explain that the learning strategy variable (X) in the use of AI as a means of learning is 51%. While the rest are influenced by other variables.

Table 4. Student Learning Perception

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	5	6.9	6.9	6.9
	Disagree	7	9.7	9.7	16.7
	Neutral	18	25.0	25.0	41.7
	Agree	28	38.9	38.9	80.6
	Strongly agree	14	19.4	19.4	100.0
	Total	72	100.0	100.0	

The data above shows that 38.9% of students agree and 19.4% strongly agree that their lecturers start learning with interesting and relevant perceptions. This means that a total of 58.3% of students give positive assessments. However, what is interesting is that the neutral figure is quite high, which is 25%. A quarter of students are in a position of hesitation or uncertainty. This points to inconsistencies in the practice of perception—perhaps the lecturer is doing well in some meetings but not in others, or perhaps the

standards of "attractiveness" vary in the eyes of the student. Meanwhile, 16.6% of students gave negative assessments, indicating that there is still significant room for improvement in this aspect.

Table 5. Review of Previous Material

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	5	6.9	6.9	6.9
	Disagree	5	6.9	6.9	13.9
	Neutral	14	19.4	19.4	33.3
	Agree	33	45.8	45.8	79.2
	Strongly agree	15	20.8	20.8	100.0
	Total	72	100.0	100.0	

The table above shows that the perception of students is more positive with 45.8% agreeing and 20.8% strongly agreeing, a total of 66.6% giving a positive assessment. This shows that the majority of lecturers have done good practice in connecting old material with new material. The neutral figure was 19.4% lower than the perception, indicating that review practices are more consistent. Only 13.8% gave a negative assessment, the lowest number among learning strategy indicators. This indicates that PAI lecturers generally understand the importance of learning continuity and strive to build a gradual knowledge schema of students.

Table 6. Variety of Learning Methods

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	5	6.9	6.9	6.9
	Disagree	7	9.7	9.7	16.7
	Neutral	16	22.2	22.2	38.9
	Agree	27	37.5	37.5	76.4
	Strongly agree	17	23.6	23.6	100.0
	Total	72	100.0	100.0	

The data above shows that the response is quite diverse. As many as 37.5% agreed and 23.6% strongly agreed that lecturers used varied and interesting methods, a total of 61.1% were positive. However, the neutral figure of 22.2% and negative 16.6% shows that there are still many lecturers who tend to be monotonous in their teaching approach. This distribution pattern is almost identical to perception, showing coherence—lecturers who are innovative in one aspect tend to be innovative in another, and vice versa.

Table 7. Material Presentation System

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	5	6.9	6.9	6.9
	Disagree	6	8.3	8.3	15.3
	Neutral	19	26.4	26.4	41.7
	Agree	32	44.4	44.4	86.1
	Strongly agree	10	13.9	13.9	100.0
	Total	72	100.0	100.0	

The table above shows that the material presentation system attracts attention because it has the highest neutral number in all indicators, which is 26.4%. Only 44.4% agreed and 13.9% strongly agreed (58.3% positive total). This high neutral number shows the ambiguity of student perceptions. Possible reasons are: first, "systematic" standards vary in the eyes of students; Second, the quality of systematics varies greatly between different courses; Third, students may not understand what is meant by "systematic" presentation. These findings indicate the need for clarifying expectations and increasing consistency in learning structures.

Table 8. Group Discussion Activities

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	7	9.7	9.7	9.7
	Disagree	4	5.6	5.6	15.3
	Neutral	23	31.9	31.9	47.2
	Agree	38	52.8	52.8	100.0
	Total	72	100.0	100.0	

Table 8 shows that group discussion activities also received a very positive response with 38.9% agreeing and 37.5% strongly agreeing (76.4% total). Interestingly, the neutral figure was only 11.1%—the lowest of all indicators. This shows that students have a clear and mostly positive experience with the group discussion method. The low neutrality indicates that group discussions are a dominant and consistent practice in the PAI department, not something that is done occasionally.

Table 9. Encouragement To Express Opinions

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	6	8.3	8.3	8.3
	Disagree	3	4.2	4.2	12.5
	Neutral	8	11.1	11.1	23.6
	Agree	28	38.9	38.9	62.5
	Strongly agree	27	37.5	37.5	100.0
	Total	72	100.0	100.0	

The table shows that the urge to express opinions gets 37.5% in favor and 43.1% strongly in favor (80.6% in total). The high "strongly agree" rate (43.1%) indicates that many students feel strongly encouraged to speak up. Only 11.1% gave a negative assessment and 8.3% were neutral. These findings are consistent with previous indicators of questioning opportunities, reinforcing the picture that the PAI classroom environment is generally supportive of student participation.

Table 10. Periodic and Structured Evaluations

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	6	8.3	8.3	8.3
	Disagree	3	4.2	4.2	12.5
	Neutral	14	19.4	19.4	31.9
	Agree	38	52.8	52.8	84.7
	Strongly agree	11	15.3	15.3	100.0

	Total	72	100.0	100.0	

The above data shows that the periodic and structured evaluations got 52.8% in favor and 15.3% strongly in favor (68.1% in total). The neutral figure of 19.4% shows that there is still uncertainty among some students about the evaluation structure. As many as 12.5% gave a negative assessment, indicating that there are still lecturers who are inconsistent in their evaluations or do not communicate the evaluation system clearly.

Table 11. Reflection Opportunities

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	5	6.9	6.9	6.9
	Disagree	3	4.2	4.2	11.1
	Neutral	18	25.0	25.0	36.1
	Agree	37	51.4	51.4	87.5
	Strongly agree	9	12.5	12.5	100.0
	Total	72	100.0	100.0	

The table above shows that the opportunity for reflection on learning gets 51.4% agree and 12.5% strongly agree (63.9% total). A fairly high neutral figure (25%) suggests that reflection practices may not have been consistently implemented or facilitated with a clear structure. In fact, reflection is an important component in metacognitive learning that supports self-regulated learning with technologies such as AI. In Higher Education, artificial intelligence (AI) technology is increasingly integrating to improve the educational experience. One of the main focuses is on AI Chat GPT (Generative Pre-trained Transformer), a text response automation system with high artificial intelligence (Marlin et al., 2023).

The development of AI as a trend in PAI education continues to progress, although its adoption rate does not yet cover the full spectrum of potential uses. This study seeks to provide an overview of the trends and potential use of AI systems and AI-based applications among students, especially in the context of Islamic Religious Education courses (Ali et al., 2023).

C. Learning Perception- The First Gate of Enggagement

When the researchers listened to the stories of four students about their experiences with learning perceptions, a very broad spectrum was revealed—from the most inspiring to the disappointing. The first college student shared a very positive experience. The lecturer, according to him, is a very creative person in opening classes. Each lecture starts with something thought-provoking—it could be a question that makes students think deeply, or an interesting phenomenon they encounter in their daily lives. The concrete example given is very interesting: before discussing Sufism, the lecturer asked about religious issues based on the students' own experiences. This approach is very powerful for several reasons. First, it activates students' prior knowledge and personal experience, making the material to be learned personally relevant. Second, it creates curiosity – students become curious about how the perspective of Sufism can explain or answer the

problems they experience. Third, it builds a sense of ownership—students feel that this learning is about their lives, not just abstract concepts in textbooks.

However, a sharp contrast emerged from the experience of the second student. The lecturer, according to him, rarely uses interesting perceptions. The pattern that occurs is almost always the same: open the laptop, turn on the projector, start from the first slide without ice breaking or engaging. The best opening sentence is only "Good morning, today we continue the material about...". This student clearly expressed his disappointment, stating that it would be more fun if there were openings that made them curious or connected to real world applications before getting into heavy theory. This experience reflects transactional learning—lecturers come, deliver material, finish—without any effort to build emotional connection or intellectual curiosity.

The third student provided a more nuanced perspective. According to him, the lecturers in his department are quite diverse in terms of perception. Some are very engaging by using games, or sharing personal experiences that are relatable to the material. But there are also monotonous and predictable ones. This diversity actually reflects the reality in many educational institutions—pedagogical quality is highly dependent on individual lecturers, not on consistent institutional standards.

The most systematic is the observation of the fourth student. Based on his experience in college so far, he estimates that only around 30% of lecturers consistently use interesting perceptions at the beginning of class. The majority are still conventional by directly entering the material or just a short review. What is interesting is his observation that good perception is crucial to create a positive learning mood. He observed that lecturers who use storytelling, raise current issues, or ask interactive questions at the beginning usually have more engaging classes and higher student participation rates. These empirical observations are invaluable because they confirm the findings of pedagogical research: effective openings not only make classrooms more enjoyable, but measurably increase student participation and engagement. The student even gave a practical recommendation: there may be a need for special training for lecturers on effective classroom opening techniques.

When the researcher triangulated these four perspectives with quantitative data showing that 58.3% of students agreed with their lecturers' perceptions but 25% were neutral, the picture that emerged was: there were indeed lecturers who excelled in their perceptions (as experienced by the first student), but they were in the minority (about 30% according to the fourth student's estimate). The majority of lecturers are in the middle—sometimes good, sometimes monotonous—resulting in the perception of "agreeing" but not "strongly agreeing". And there are still segments that are clearly poor (as experienced by the second student). This inconsistency explains why the neutral rate is quite high—students who experience quality variations between meetings or between lecturers tend to choose the middle position. Saidah wrote that the importance of perception in learning is to know the child's readiness in learning, in this case the teacher

conditions the child so that the child concentrates on the material presented. Most children have a negative image of learning activities. This forms the perception of children to be lazy or even do not want to learn. Perception can arouse children's interest in learning and make children focus on the material (Saidah et al., 2021).

D. Learning Objective Devlivery- The Missing Roadmap

Clarity of learning objectives turned out to be a very controversial issue based on student experience. The first student again gave positive testimonials. The lecturer always conveys the learning objectives very clearly at the beginning of each meeting. In fact, he wrote it on the whiteboard or displayed it on the first slide. The example given is very specific: "After today's lecture, you are expected to be able to analyze the theory of mass communication and apply it in case studies." This statement format follows the principles of SMART (Specific, Measurable, Achievable, Relevant, Time-bound) in the formulation of learning objectives. What is even more impressive, at the end of the class, the lecturer often recaps to check whether the learning goals have been achieved. This student revealed that this practice is very helpful to focus and know what expectations to achieve. This reflects backward design in instructional planning—starting with a clear goal, then designing learning to achieve those goals, and finally evaluating achievement.

A very sharp contrast emerged from the second student. Most of his lecturers, according to him, rarely explicitly mention the learning objectives. They usually go straight into the material by just saying "Today we are going to learn about integrals" without explaining what they actually want to achieve after learning the topic. The impact of this ambiguity is very concrete: students become confused about whether they understand the concept alone or whether they should be able to apply it to complex problems. This confusion about the expected depth of understanding can result in misdirected effort—students may spend time on the wrong things, or conversely, not enough in learning what is really important.

The third student provides additional nuances. At the beginning of the semester, according to him, lecturers usually convey course objectives in general through the syllabus. But for each meeting, not all lecturers consistently convey specific learning goals. There are some good lecturers who always say "Our goal today is..." and at the end of the class they evaluate whether it has been achieved. But there are also those who assume that students already know from the syllabus, even though students need reminders and clarity every session. This observation reveals the gap between lecturers' expectations and students' needs—lecturers may feel that providing a syllabus is enough, but students need reinforcement and contextualization of every meeting.

The fourth student provided a quantitative estimate: according to his observation, only about 40% of lecturers were completely clear in conveying learning objectives at the beginning of class. Others tend to be implicit or too general. He emphasized that this is very important for self-directed learning and motivation. Most insightful is his

observation that good lecturers usually not only convey "what" to be learned, but also "why" is important and "how" they will use it later. The most helpful is when they also explain the connection with the previous and upcoming material. It reflects an understanding of curriculum coherence—every learning is part of the big picture, not standing alone.

The gap between best practice (40% according to the fourth student) and general perception in quantitative data suggests that the unclarity of learning objectives is a widespread issue but may be underreported in surveys. Students may not always realize that they should get explicit learning objectives, so they don't assess this aspect critically. This is in line with Yasukma Amanda and Meyniar Albina that the purpose of learning is important to motivate this learning activity to become the most important part of their lives, so that the learning experience obtained is more meaningful. Therefore, in this case, learning objectives need to be carried out both in groups and individually. The results of the analysis can be the basis for designing objectives, materials, media, and learning evaluations, so that the student learning experience can be more optimal and in accordance with expectations (Amanda & Albina, 2024).

E. Review and Material Connections- Building a Knowledge Schema

The practice of reviewing previous material and relating it to new material turned out to be more consistent than other aspects, although the quality still varied greatly. The first student reported that most lecturers did review the previous material at the beginning of the lecture. Usually they spend the first 10-15 minutes recalling important points from the previous meeting, then explaining how they relate to today's material. This student appreciated the practice because it was very helpful to understand the continuous learning flow. This 10-15 minute duration is actually quite ideal—not too short so that students can actually activate prior knowledge, but also not too long so that the time for new material is not too reduced.

The second student provided a more reserved perspective. According to him, not all lecturers do that. There are some lecturers who go straight into new material without review. But good lecturers usually always give an overview of the relationship between the old material and the new one. The complaint is that sometimes the reviews are only fleeting, not in-depth. This indicates a variation in quality—some do review superficially as a routine, some actually use it as scaffolding for new learning.

The third student made an interesting observation about generational patterns. According to him, senior lecturers do reviews more often than young lecturers. He suspects that this is because of their extensive teaching experience. However, he also criticized that some people just ask "Do you still remember last week's material?" and continue without really connecting in detail. This observation about generational differences is interesting because it contradicts the common assumption that young lecturers are more innovative. In the context of material review, it turns out that long

teaching experience provides wisdom about the importance of learning continuity—senior lecturers may have learned from experience that students need reinforcement and explicit connections between material.

The fourth student provided more systematic data. From his observations, around 70% of lecturers conduct reviews, but the quality varies greatly. Some are just a quick review, some even make mind mapping on the board. The most effective, according to him, is when the lecturer asks students about the previous material, so that students also actively participate in memorizing. This is a very powerful retrieval practice in learning science—actively recalling information is more effective than passively receiving review. However, he also observed that not all lecturers consistently do it every meeting.

When the researcher compared it with quantitative data which showed that 66.6% gave a positive assessment of the material review, this figure was very convergent with the qualitative estimate of 70%. This shows strong triangulation—two different methods produce consistent findings. However, qualitative data provides an important nuance: not just about whether or not a review is conducted, but how good the review is. A superficial review may not provide the same value as an in-depth and interactive review.

F. Variety of Learning Methods- From Innovation to Monotony

The variety of learning methods turned out to be the area with the highest disparity between lecturers, creating a very different learning experience between students. The first student recounted a very positive experience. The lecturers are quite creative in delivering material, often using group discussion methods, case studies from daily life, and sometimes even showing inspirational videos about Islamic figures. What he likes the most is when lecturers relate the material to contemporary issues such as sharia economics or the environment from an Islamic perspective. The use of this contemporary context is essential to make PAI learning not only about classical texts but also relevant to the challenges of the times. This student described learning as "highly applicable and easy to understand"—an indicator that variety of methods does contribute to better understanding.

A very sharp contrast came from the second student. He honestly admitted that lecturers on his campus still tend to be monotonous. Most still use one-way talks with "that-it" presentation slides. There are occasional questions and answers, but there is rarely an interesting variety of methods. He suspects that maybe because the material is considered standard, so his lecturers lack exploration of more engaging. What was very telling was his last comment: "Sometimes it makes you sleepy when it's late in the afternoon." It's not just about personal preference, but about learning effectiveness—when students are sleepy, clearly learning doesn't happen optimally. Monotony of the method results in cognitive and emotional disengagement.

The third student shared a very different experience – the lecturer was quite innovative by using the storytelling method based on the stories of the prophets, role playing to understand moral values, and even educational Islamic games. What is interesting is that the lecturer also uses a psychological approach to explain the wisdom of worship in Islam. This interdisciplinary approach is powerful—by integrating psychology, lecturers help students understand not only the "what" and "how" of worship, but also the "why" from a psychological and spiritual perspective. The student emphasized that with this approach, learning becomes "not just memorizing, but really understanding its essence." This is deep learning versus surface learning—a very fundamental difference in the quality of learning.

The fourth student gave the most comprehensive reflection. According to him, the learning method is highly dependent on individual lecturers. Some are very varied with discussions, mini-seminars, student presentations, and even field trips to places of worship. But there are also those that are still conventional. What was most memorable for him was when the lecturer invited personal reflection on the practice of Islamic values in academic and social life. This shows an understanding that PAI learning is not only the cognitive domain but also the affective and behavioral domain. However, he also criticized that there is still a need for more PAI lecturers who are literate in technology and modern learning methods.

When we look at quantitative data showing that 61.1% give a positive assessment of the variation in methods, this figure is actually higher than expected based on qualitative data. This may be because in surveys, students compare it to their own limited experience—if their lecturers are a little better than they have been before, they may have already rated them positively. But when they reflect deeply in interviews, they realize a larger gap between current practices and possible best practices.

This variety of learning methods is highly correlated with the use of AI because students who are used to multimodal and varied learning tend to be more adaptable and open to the use of new technologies. They see AI not as a threat or something alien, but as just another tool in their already diverse learning toolkit. As according to Dhani, et al., an educator needs to use several methods (varied methods) and Varied Media in conveying learning to one meeting. The Varied Method makes the presentation of learning more interesting and much more lively, so that it can arouse students' enthusiasm for learning. Varied methods need to be supported by learning media that is in accordance with the chosen method and also the material to be taught (Dani et al., 2023).

G. Participation and Expression of Opinions- Creating a Safe Space fot Thinking

The ability and willingness of students to express their opinions is greatly influenced by how lecturers create the classroom environment. The first student described an ideal experience. The lecturer strongly encourages them to speak up, with almost every lecture

having a discussion or question and answer session. What is very important is the philosophy that the lecturer instills: "there is no wrong answer, the important thing is to have the courage to have an opinion." This statement is very powerful because it eliminates the fear of failure that often hinders participation. Even when there are students who are quiet, the lecturer will gently provoke them to speak up—showing an inclusive and caring approach. The student revealed that he became more confident in expressing his ideas, despite initially fearing being wrong. This is a very important transformation—from self-doubt to self-efficacy, which will have an impact not only on classroom learning but also on willingness to take risks in other contexts, including trying new technologies like AI.

The second student experience is much more complex and challenging. According to him, it depends on the lecturer. There are some lecturers who are indeed active in provoking discussions, but there are also those who only focus on explaining the material without much interaction. What is more problematic is when the lecturer is the type who immediately "breaks" students' opinions without giving room for elaboration. This practice is very destructive to psychological safety in the classroom. When students express their opinions and are immediately criticized without a chance to explain further or dialogue, what happens is learned helplessness—students learn that it is safer to be silent than to speak. This student admitted that sometimes they hesitate to speak up for fear of being criticized. This fear not only inhibits participation in the classroom, but also inhibits the intellectual risk-taking necessary for transformative learning.

The third student described a very different environment—the majority of the lecturers in his department encouraged critical thinking and debate. They often use the Socratic questioning method, so students are forced to think critically and defend arguments. This student honestly admitted that this approach is challenging—it requires a strong mentality because opinions can be challenged to the fullest. But he saw a silver lining: they were trained to think analytically and were not easily receptive to raw information. This is a growth mindset—seeing challenges as opportunities to grow, not as threats. This kind of environment, although demanding, is actually very good at preparing students for the professional world where they must be able to defend their ideas and engage in intellectual discourse.

The fourth student showed a different experience—the lecturer encouraged, but the method was still less effective. Usually they only ask "do you want to ask?" at the end of class, even though the time is up. This is a very common but ineffective practice—generic questions at the end of class when everyone is tired and want to go home rarely result in meaningful discussions. There is rarely an organized discussion structure. What's worse, according to him, sometimes only certain students are active in talking, while others are just listeners. This participation inequality is a serious problem in collaborative

learning—when only certain voices are heard, many perspectives and potential are lost. This student recommended that there needs to be a fairer system so that all students have the opportunity to speak. This can be structured turn-taking, think-pair-share, or other techniques that ensure equitable participation.

Quantitative data showing that 84.7% of students are active in group discussions and 80.6% feel encouraged to express their opinions is actually very positive. However, qualitative data reveals important nuances—not just about whether there is an opportunity to talk, but about the quality of the environment created. There is a big difference between a truly safe and encouraging environment (such as the first student) versus an environment that formally allows participation but informally punishes it (as the second student experienced).

The connection with the utilization of AI is very clear here. Students who are used to a safe environment to experiment and make mistakes tend to be more willing to try new technologies like AI without fear of failure. On the other hand, students who are used to being harshly criticized or feel insecure in expressing ideas tend to be more hesitant to adopt new tools for fear of "misusing" or "looking stupid." This is in line with Suryati, et al. that self-expression is important both in academic and social contexts. It not only serves as a means of sharing ideas but also as a reflection of personal identity, values, and beliefs. However, challenges often arise due to a limited understanding of communication ethics, which has an impact on the way students express themselves effectively (Suryati et al., 2025).

H. Learning Evaluation-From Assesment for Learning to Assement of Learning

Learning evaluation turns out to be not only about giving grades, but about how feedback is given and how evaluation is used to improve learning. Kasmawati, et al. stated that learning evaluation has a significant role in improving the quality of student learning. Evaluation allows the identification of various weaknesses in the learning process, provides feedback for lecturers and students, and improves the effectiveness of teaching methods. With optimal evaluation, students can understand the extent of their achievements and adjust their learning strategies, while lecturers can improve materials and Teaching methods to better suit student needs (Kamawati et al., 2025).

The first student described a highly structured and comprehensive evaluation system. The lecturers have weekly quizzes, periodic assignments every 2 weeks, mid tests, and final tests. What is even more impressive is the existence of a clear assessment rubric for each task. This is especially important because the rubric removes subjectivity and provides transparency about expectations. Students know exactly what to assess and how. What he appreciates most is detailed written feedback about the shortcomings and advantages of his work. This is not just numbers, but actionable developmental feedback—students can use that feedback to improve on their next assignment. The most impressive thing is that the lecturer also evaluates his own teaching methods by asking

for feedback from students in the middle of the semester. This shows a truly two-way evaluation model—not only students being evaluated, but also lecturers evaluating the effectiveness of their teaching. This is a very powerful reflective practice.

A sharp contrast emerged from the second student. The lecturers are somewhat inconsistent in the evaluation. Some routinely give quizzes or small tasks every meeting, but there are also those who suddenly give big tasks without prior notice. This unpredictability creates stress and is not conducive to planned learning. What is more problematic is that the feedback is sometimes only in the form of a score without an explanation of why it gets such a value. Students become confused about where their mistakes or shortcomings lie. Without informative feedback, evaluation loses its function as a learning tool and becomes just a judgment tool. Students can't improve because they don't know what needs to be improved.

The third student criticized the monotony of the evaluation system in his department. Almost all lecturers use the same pattern: UTS 30%, UAS 40%, assignments 20%, attendance 10%. There are rarely variations such as presentations, projects, or portfolios. What is more worrying is that the evaluation focuses only on memorizing formulas or theories, rarely measuring understanding of concepts or practical applications. This pattern reflects the assessment of OF learning (summative, for grading) rather than the assessment of FOR learning (formative, for development). This system also doesn't accommodate different learning styles—students who are stronger in oral presentations or project-based work don't get the opportunity to shine. He described the system as "rigid and does not accommodate different learning styles."

The fourth student estimated that about 60% of lecturers conduct well-structured evaluations—they have a clear timeline, transparent assessment criteria, and provide constructive feedback. But there are still some senior lecturers whose evaluations are subjective or inconsistent. The most problematic, according to him, is the lecturer who never returns the results of the exam or assignment. This is a serious red flag—without seeing the results of their work that have been assessed, students cannot learn from their mistakes. They don't know the extent of their learning progress. This student emphasized that ideally evaluation should be a two-way process—not only the lecturer assesses the student, but the student can also evaluate the learning process. It reflects an understanding of the metacognitive aspect of learning.

Quantitative data showed that 68.1% gave a positive assessment to periodic and structured evaluations, 68% to tests/quizzes, and 75% to helpful feedback. These figures are relatively high but still show that there are 25-32% of students who are dissatisfied with the evaluation system. This gap is significant and needs attention. The connection to the use of AI is very straightforward: when students receive detailed and constructive feedback from lecturers, they are aware of gaps in their understanding and motivated to

seek additional resources—including AI—to address those gaps. On the other hand, when feedback is only in the form of numbers, students do not know what to look for or learn more, so the use of AI becomes random and undirected.

I. Materization Systematic- Blueprint for Understanding

The way the material is presented has a profound impact on students' ability to understand and integrate knowledge. The first student was very grateful because the majority of his lecturers presented the material very systematically. They always provide an outline at the beginning of the semester, a detailed syllabus, and every meeting has a clear learning roadmap. The material is arranged from basic to advanced, with many concrete examples and easy-to-understand analogies. The most helpful thing is that they often repeat the key points and provide a summary at the end of each session. Structures like this are very conducive to learning because they help students build a coherent mental model. Repetition of key points and summaries helps with consolidation and retention. Analogies and concrete examples help abstract concepts to be tangible and relatable.

The second student described a mixed experience. There are very organized lecturers with neat slides, logical material flow, and easy-to-follow step-by-step explanations. But there are also lecturers whose material is "jumping"—sometimes discussing topic A suddenly connects to topic C without a clear transition. This lack of logical progression confuses students because they cannot see how the concepts are interrelated. The most challenging, according to him, is when the lecturer assumes that students already understand the material requirements, even though they are not necessarily strong in the basics. This assumption creates a widening knowledge gap—when the foundation is not strong, learning advanced materials becomes very difficult.

The third student criticized that the presentation of the material was still not user-friendly. Many lecturers rely too much on textbooks without adaptation to the local context or the student's level of understanding. The slides are also often full of text, lacking visual aids such as diagrams or infographics. The explanation is too theoretical without examples of real applications, so it is difficult to relate to everyday life. This critique is crucial—in an era of information overload, the ability to curate, simplify, and contextualize information is a crucial pedagogical skill. Lecturers who only copy-paste textbooks without value addition do not provide optimal service to students.

The fourth student made a very interesting observation about generational differences. Young lecturers are usually more systematic and use technology well—interactive slides, simulations, explainer videos. But senior lecturers are sometimes still manual and less structured. This is a generalization that may not always be accurate, but it reflects a common pattern: newly trained lecturers tend to be more familiar with instructional design principles and educational technology. What he described as ideal is clear learning objectives in each meeting, the material is presented in logical sequence,

there is hands-on practice, and regular checks for understanding. Unfortunately, not all lecturers consistently apply this.

Quantitative data showed that 58.3% gave a positive assessment of systematics, but with the highest neutrality (26.4%). This high neutral number is consistent with qualitative data that shows a huge variation—some are excellent, some are poor, many are in the middle. Students who experience inconsistency or are unsure of what is meant by "systematic" tend to choose neutral.The connection with the use of AI is: when the material is presented systematically and with a clear progression, students use AI to deepen understanding at the appropriate level. AI is a structured supplementary resource. On the other hand, when the presentation of material is chaotic, students use AI as the primary source to try to understand the material—AI becomes a compensatory tool for gaps in teaching. Students who experience "jumping material" may ask the AI "can you explain the relationship between concepts A and C?" because the lecturer doesn't explain the transition.

IV. Conclusion

This research makes an important contribution in understanding the dynamics between learning strategies and the use of AI in the context of PAI learning in the digital era. By showing a strong and significant relationship between the two, this study confirms that the success of technology integration in education does not lie in technology itself, but rather in the quality of the learning strategies that integrate it. The implications of this research provide a comprehensive roadmap for various stakeholders to improve the quality of PAI learning that not only adopts technology, but does so in a pedagogically sound and axiologically aligned way with Islamic values.

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