

LECTURER–LEARNER LEADERSHIP AND ITS IMPACT ON STUDENT LEARNING BEHAVIOR IN ISLAMIC HIGHER EDUCATION

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ABSTRACT

In today's global higher education landscape, effective leadership is increasingly recognized as a pivotal factor in shaping student learning behaviour, particularly in Islamic educational institutions that balance academic and moral development. This study investigates the influence of lecturer–learner leadership on student learning behavior at Islamic Private Universities in Indonesia. Employing a quantitative research design, the study focused on two main variables: lecturer–learner leadership and student learning behavior. Data were collected from 21 Islamic Private Universities, involving 501 lecturers and 708 students, resulting in 1,209 valid questionnaire responses. The findings demonstrate that lecturer–learner leadership has a significant, positive effect on student learning behaviour. When lecturers embody strong leadership qualities in their interactions with students, such as guidance, support, and ethical modelling, students display more constructive, engaged, and independent learning behaviors. This emphasizes the crucial role of lecturer–learner dynamics in fostering both academic achievement and personal growth. The results highlight the importance of integrating learner-centered leadership values into the educational framework of Islamic universities. For Islamic higher education to meet global standards, institutions must empower lecturers with leadership competencies that cultivate active, ethical, and independent learners, thereby enhancing both educational quality and character formation.

Keywords: Educational Leadership, Islamic Higher Education, Lecturer–Learner Leadership, Private Universities, Student Learning Behavior

INTRODUCTION

Globally, higher education effectiveness is closely tied to lecturers' leadership in shaping student learning behavior. Leadership today extends beyond administration to fostering active, ethical, and sustainable learning (Elkaleh et al., 2025). Lecturers are increasingly expected to act as learning leaders who manage change, build resilience, and prepare graduates who are both competent and morally grounded (Akbaba Altun, 2025). With the rise of digital technologies, this role also requires promoting collaboration, digital literacy, and adaptability (Uzorka & Kalabuki, 2025). In Islamic private universities, such leadership is especially vital, as it must integrate intellectual, emotional, and spiritual dimensions in line with Islamic values and global standards.

Learning, however, is a dynamic process that extends beyond knowledge transfer. It involves equipping students with skills, attitudes, and values through structured interactions that demand both pedagogical competence and leadership grounded in empathy and responsibility. Emotional intelligence is a critical element of this process, enabling lecturers to guide students with ethical awareness and supportive engagement (Parrish, 2015). Research confirms that emotional leadership enhances students' willingness to participate in learning by shaping their motivation and emotional responses (Wang et al., 2024). Consequently, successful classroom

management and positive student outcomes cannot be separated from leadership that combines intellectual, emotional, and moral dimensions.

Leadership in higher education is inherently multifaceted, requiring lecturers to balance task-oriented responsibilities with relationship-oriented practices that nurture student growth and well-being. Studies show that emotional leadership significantly boosts student engagement by addressing diverse needs, such as learning pace, creativity, and motivation (Wang et al., 2024). Similarly, Kovacevic et al. (2025) highlight the importance of digital and adaptive strategies that enable inclusive environments, resource allocation, and responsive pedagogy. Such perspectives align with the Islamic vision of *tarbiyah*, which frames lecturers as *murabbi*, guides who cultivate both intellectual competence and moral character.

The interactions among cognitive, emotional, and environmental factors also shape learners' learning behaviour. Variables such as readiness, health, and motivation require adaptive strategies that recognize diverse learner profiles. Emotional leadership plays a vital role in this context, as lecturers' empathy and encouragement can significantly influence engagement (Wang et al., 2024). Adaptive approaches that incorporate active learning in blended or digital environments have likewise been shown to improve participation and skill development (El-Sabagh, 2021; Mujallid, 2024). This perspective resonates with transformational leadership theory (TLT) (Bass & Avolio, 1994), which emphasizes the lecturer's role in inspiring and motivating learners toward academic success and personal growth.

The evolution of leadership in higher education can also be seen through both classical and contemporary perspectives. While classical theories emphasize authority, structure, and direction, contemporary approaches highlight the complexity of balancing academic values, institutional reform, and practical challenges. Macfarlane et al. (2024) identify three perspectives, traditionalist, reformist, and pragmatist, that illustrate this tension. In the digital era, leadership must also be adaptive and collaborative. As Visintini (2022) argues, academic leadership today requires fostering digital education strategies that integrate innovation with pedagogical purpose, thereby enhancing teaching and learning. This shift reflects how leadership has moved beyond traditional authority toward more context-sensitive, innovation-driven approaches.

The integration of digital tools with human-centered values has become a central concern in contemporary higher education, particularly as institutions navigate the rapid expansion of technology-mediated learning environments (Chaka, 2023). Digital platforms, online learning systems, and automated administrative tools are no longer peripheral supports but essential components of teaching, assessment, and student engagement. However, the meaningful use of these technologies requires more than technical proficiency; it demands an intentional alignment with pedagogical principles that prioritize student well-being, inclusivity, and equitable access. When human-centered values guide digital innovation, it enriches learning experiences by fostering collaboration, enhancing learner autonomy, and supporting diverse learning needs.

At the same time, studies on artificial intelligence underscore the growing need for digital literacy and ethical awareness among students, educators, and institutional leaders (Fan & Li, 2023). AI-driven systems, from adaptive learning software to automated decision-making tools, carry embedded assumptions that shape academic processes and influence student outcomes (Carolus et al., 2023; Assiri et al., 2020). This raises critical questions about transparency, fairness, data privacy, and the potential amplification of bias. Consequently, higher education institutions must cultivate ethical digital literacy, enabling stakeholders to engage critically with AI technologies while understanding their benefits and limitations (Ågerfalk, 2020; Alotaibi & Alshehri, 2023). Integrating these competencies into curriculum design and professional development not only equips learners for a technologically advanced society but

also ensures that the adoption of AI remains aligned with ethical and socially responsible educational goals.

Finally, recent scholarship situates these debates within global and technological transformations. Ashour et al. (2021) emphasize the demand for adaptive leadership capable of navigating disruption and uncertainty, while Elkaleh et al. (2025) underline sustainable leadership as a balance between innovation and ethics. Similarly, Uzorka and Kalabuki (2025) stress the integration of digital tools with human-centered values, and studies on artificial intelligence highlight the growing need for digital literacy and ethical awareness in higher education (Crompton & Burke, 2023; Chiu et al., 2023; Abonamah et al., 2021). Despite this extensive literature, little empirical research has examined the direct relationship between lecturer leadership and student learning behavior in Islamic private universities. This study addresses that gap by integrating Islamic pedagogical principles with contemporary leadership theories to inform leadership development programs and enhance the quality of higher education.

METHOD

This study employed a quantitative descriptive method to examine the influence of lecturer learning leadership on learners' learning behavior at Islamic private universities. The approach aimed to provide a statistical overview of the relationship between the two variables using a structured survey instrument. The total population consisted of 1,209 respondents from 41 universities, including 501 lecturers and students. Using a 10% margin of error, the final sample included 29 lecturers and 92 students, selected through stratified random sampling to ensure representativeness. Data were collected via closed-ended questionnaires designed to measure perceptions of learning leadership and student behavior. The method aligns with the research objective to offer an accurate and contextual description of how lecturer leadership impacts student learning in higher education settings.

This study adopts an integrated framework combining the Islamic educational leadership framework and the TLT in an Islamic context to examine the influence of lecturer–learner leadership on student learning behavior in Islamic private universities. The Islamic educational leadership framework emphasizes key principles such as *amānah* (trust), *shura* (consultation), *ʿadl* (justice), and *qudwah* (exemplary leadership), positioning the lecturer's role as a moral and spiritual trust grounded in prophetic values (Al-Attas, 1979; Sahin, 2013). In parallel, the TLT, characterized by inspirational motivation, individualized consideration, and moral purpose, is contextualized within Islamic education to highlight how lecturers inspire and transform students through ethical leadership and tarbiyah-based guidance (Bass & Avolio, 1994; Nasr, 1984). This dual-framework approach enables a comprehensive analysis of the spiritual and motivational dimensions of leadership, providing a culturally and religiously relevant lens for assessing how lecturers shape student behavior and learning in Islamic higher education settings.

RESULTS AND DISCUSSION

To determine the overall response trend for variable X (learning leadership), the Weighted Mean Score (WMS) method was applied to compute the average ratings for all statement items. The analysis yielded an overall WMS of 4.29, which falls within the “very good” category. This finding is further supported by consistently high mean scores across all sub-indicators, as presented in Figure 1.

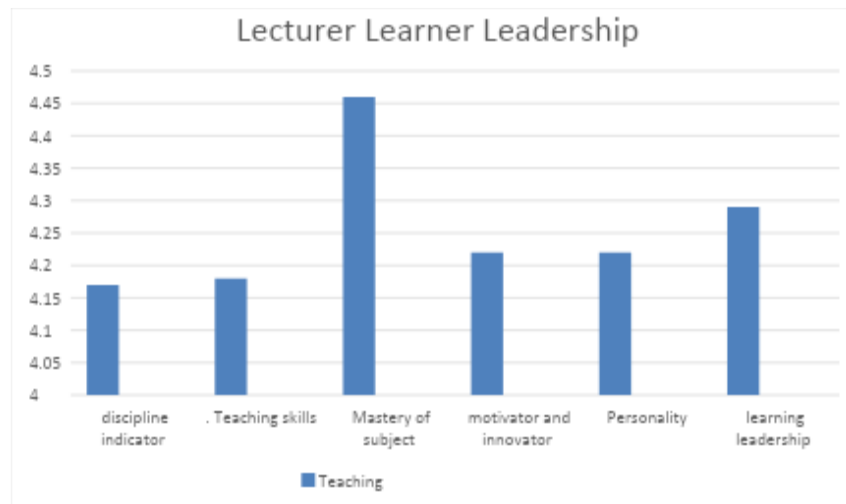


Figure 1. Learning Leadership Condition Diagram

Based on the analysis presented in Figure 1, all sub-indicators of learning leadership achieved average scores within the “very good” category on the WMS scale. The discipline indicator scored 4.17, suggesting that lecturers consistently model punctuality and encourage students to observe class schedules. Teaching skills received an average score of 4.18, reflecting lecturers’ ability to deliver engaging lessons through varied methods and instructional media that help maintain student interest. Mastery of subject matter achieved the highest score of 4.46, indicating that lecturers are well-prepared, present material clearly, and employ delivery strategies that strengthen student understanding.

Similarly, the motivator and innovator indicator scored 4.22, highlighting lecturers’ effectiveness in promoting participation, facilitating discussion, supporting group activities, and stimulating creative thinking. Personality obtained an average score of 4.42, underscoring lecturers’ roles as mentors and role models who nurture students’ confidence and personal development while maintaining fairness. Overall, the WMS for learning leadership was 4.29, classified as “very good,” with each sub-indicator reinforcing the strong leadership qualities of lecturers in shaping student learning behavior, as further illustrated in Figure 2.

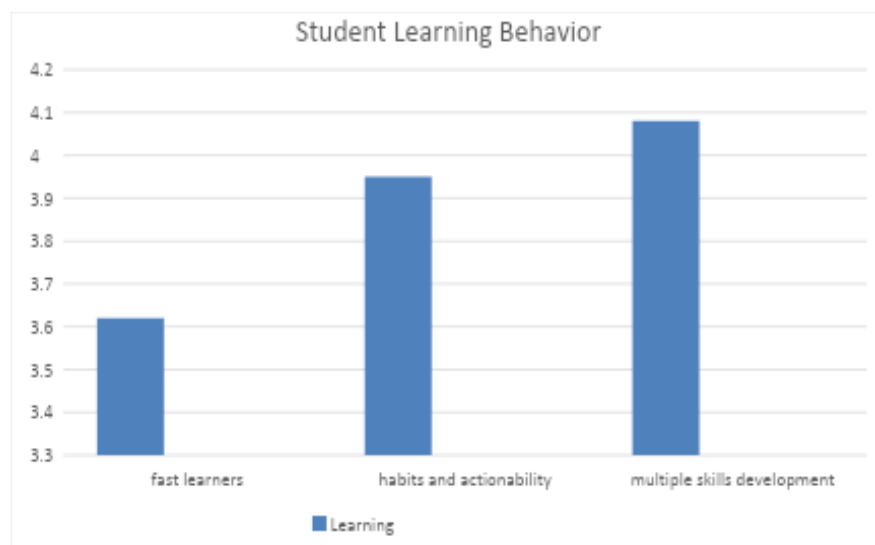


Figure 2. Condition of student learning behavior

Based on the WMS analysis, three key sub-indicators of student learning behavior were assessed. The “fast learners” sub-indicator scored 3.62, placing it in the “good” category, suggesting that students generally adapt quickly to learning activities, attend classes on time, study consistently, and complete assignments as scheduled. The “habits and actionability” sub-indicator obtained a score of 3.95, also in the “good” category, reflecting students’ effective learning routines and initiative in academic tasks. In contrast, the “multiple skills development” sub-indicator scored 4.08, indicating “very good” and highlighting that many students are actively expanding diverse competencies alongside their coursework.

In addition, Table 1 displays the results of the One-Sample Kolmogorov-Smirnov Test used to assess the normality of the data for learning leadership (X) and learning behavior (Y). The Asymptotic Significance (2-tailed) values for both variables were greater than 0.05, indicating that the data are normally distributed. This confirms that the subsequent statistical analysis can appropriately employ parametric techniques.

Table 1. One-Sample Kolmogorov-Smirnov Test

		Variable_ X	Variable_ Y
N		301	301
Normal Parameters ^b	Mean	76.08	49.35
	Std. Deviation	7.431	4.720
	Most Extreme	Absolute	.119
	Differences	Positive	.119
	Negative	-.074	-.096
	Test Statistic	.119	.101
	Asymp. Sig. (2-tailed)	.085 ^c	.200 ^c

The normality test results obtained through SPSS version 25.0 for Windows show that variable X produced an Asymp. Sig. (2-tailed) value of 0.085 and variable Y produced a value of 0.200, both of which exceed the 0.05 threshold. Accordingly, the null hypothesis (H_0) is accepted for both variables, indicating that their data distributions are normal. Establishing normality is essential for hypothesis testing because it permits the application of parametric statistical analysis. As noted by Sheskin (2011), parametric statistics are appropriate for analyzing interval or ratio data drawn from normally distributed populations, thereby justifying their use in this study.

This study tested the hypothesis that leadership learning significantly affects student learning behaviour in Islamic Private Universities. Since both variables were normally distributed, the Pearson Product-Moment correlation was applied in SPSS version 25.0 for Windows to examine the strength and direction of the relationship. The correlation coefficient provides the statistical basis for accepting or rejecting the hypothesis, as shown in Table 2.

Table 2: Correlation value between variable X and variable Y

			Variable X	Variable Y
Lecturer Leadership Variable	Learner	Pearson Correlation	1	.679**
		Sig. (2-tailed)		.000
		N	301	301
		Pearson Correlation	.679*	1
Student Behavior Variable	Learning		*	
		Sig. (2-tailed)	.000	
		N	301	301

** . Correlation is significant at the 0.01 level (2-tailed).

The correlation coefficient between variables X (lecturer learning leadership) and Y (student learning behaviour) was 0.679, indicating a strong positive relationship. Based on standard correlation coefficient criteria, this value indicates that effective lecturer leadership is closely linked to enhanced student learning behaviour in world-class universities. Since the coefficient falls within the range 0.600–0.799, it can be categorized as reflecting a strong association between the two variables. To further evaluate the extent of this influence, a coefficient of determination test was carried out using SPSS version 25.0 for Windows. This test identifies the proportion of variance in the dependent variable (student learning behaviour) that can be explained by the independent variable (lecturer learning leadership), thereby providing a more precise measure of the relationship’s strength. Table 3 presents the results of the determination coefficient analysis, showing the extent to which lecturer learning leadership (X) explains the variance in student learning behavior (Y).

Table 3. Calculation Results of Determination Coefficients of X Variables and Variable Y

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change F	Statistic df1	Statistic df2	Sig. F Change
1	.679 ^a	.461	.450	3.502	.461	39.381	1	46	.000

a. Predictors: (Constant), Variable_X

The coefficient of determination is obtained using the formula ($r^2 \times 100\%$), with $r = 0.679$. Based on this calculation, the coefficient of determination equals $(0.679)^2 \times 100\% = 46.1\%$ (Pyrzack & Oh, 2025). This finding suggests that lecturer leadership accounts for 46.1% of the variance in student learning behavior at world-class universities. In comparison, other factors beyond the scope of this study account for the remaining 53.9%.

A significance test was conducted to determine whether the correlation between variables X (learning leadership) and Y (student learning behaviour) was statistically significant. This test used a t-test to assess the reliability of the correlation coefficient. The analysis was performed using SPSS version 25.0 for Windows, and the results are presented in Table 4.

Table 4: Correlation Significance Test Calculation Results

Coefficients		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
Model		B	Std. Error	Beta		
1	(Constant)	16.537	5.254		3.148	.003
	Learning Leadership	.431	.069	.679	6.275	.000

Dependent Variable: Learning Behavior

Based on Table 4, the t-value for learning leadership is 6.275, with a significance level (Sig.) of 0.000, which is well below the 0.05 threshold. This indicates that leadership learning has a statistically significant positive effect on student learning behaviour. Therefore, it can be concluded that meaningful lecturer learning leadership contributes to explaining variations in student learning behaviour.

The results indicate that the dependent variable is student learning behavior. The t-test produced a t-count of 6.275, while the critical t-table value at the 0.05 significance level with degrees of freedom ($df = n - 2 = 301 - 2 = 299$) is 1.649. According to the decision rule, if t-count > t-table, the correlation coefficient is considered significant. Since $6.275 > 1.649$, the null hypothesis (H_0) is rejected, and the alternative hypothesis (H_a) is accepted, confirming that the correlation between lecturer learning leadership (variable X) and student learning behavior (variable Y) is statistically significant. This finding shows that lecturer leadership learning significantly influences student learning behaviour.

Furthermore, the study demonstrates that lecturer leadership in learning exerts a significant and positive effect on student learning behaviour, with a correlation coefficient of 0.679 and a coefficient of determination of 46.1%. These results validate the central premise of the integrated framework, which combines the Islamic Educational Leadership Framework (IELF) and TLT, emphasizing that leadership grounded in ethical–spiritual values and motivational–transformational practices can meaningfully shape student engagement and learning outcomes. The “very good” WMS of 4.29 for leadership indicators further highlights the strength of lecturers’ leadership practices within the Islamic higher education context.

The discussion of findings integrates insights from both IELF and TLT to interpret the strong results across the assessed indicators. The consistently high scores on discipline, teaching skills, mastery of subject matter, personality, and motivation/innovation not only demonstrate lecturers’ effectiveness in shaping student learning but also reveal the operationalization of key Islamic leadership values such as *amānah* (trust), *‘adl* (justice), and *qudwah* (exemplary leadership). At the same time, these results reflect transformational leadership qualities, including inspirational motivation and individualized consideration, which foster creativity, active participation, and deeper learning. Together, these perspectives highlight how lecturer leadership in Islamic higher education simultaneously advances academic excellence and ethical formation, positioning it as a vital force in cultivating balanced, proactive learners.

Viewed through the Islamic Educational Leadership Framework, the consistently high scores across indicators such as discipline (4.17), teaching skills (4.18), mastery of subject matter (4.46), and personality (4.42) reflect the values of *amānah* (trust), *‘adl* (justice), and *qudwah* (exemplary leadership). Lecturers’ punctuality and fairness demonstrate *amānah*, while their role as mentors and moral exemplars embodies *qudwah*, positioning them not only as transmitters of

knowledge but also as guides in ethical and spiritual formation. These findings illustrate how Islamic leadership values are actively operationalized in classroom practice, thereby strengthening the alignment between pedagogy and Islamic educational goals.

At the same time, the findings align with TLT. The high scores on the motivator and innovator indicators (4.22) highlight lecturers' ability to provide inspirational motivation and individualized attention. By fostering participation, encouraging group work, and stimulating creative thinking, lecturers demonstrate transformational leadership qualities that inspire students to go beyond minimum requirements and engage in deeper, more meaningful learning. This suggests that, when contextualized within the principles of *tarbiyah*, transformational leadership significantly contributes to the cultivation of proactive and independent learning behaviours.

The positive impact of lecturer leadership is further reflected in student learning behavior indicators. While some areas, such as fast learning (3.62) and habits/actionability (3.95), were rated in the "good" category, multiple skills development achieved a "very good" score of 4.08. These results show that although students may differ in pace and consistency, effective leadership encourages them to expand their competencies and pursue holistic development. This supports the argument that lecturer leadership not only enhances cognitive achievement but also nurtures multidimensional growth, including creativity, collaboration, and problem-solving skills that are essential in the global knowledge economy.

The normality test results and subsequent use of parametric statistics, particularly Pearson correlation and regression analysis, confirm that the observed relationship is statistically robust. With lecturer leadership accounting for 46.1% of the variance in student learning behaviour, the findings indicate that nearly half of student engagement and behavioural outcomes can be attributed to leadership qualities. This statistical evidence validates the dual-framework approach: Islamic principles provide the ethical-spiritual foundation, while transformational practices supply the motivational and pedagogical mechanisms that translate leadership into measurable student behaviors.

These findings carry important implications for Islamic private universities in Indonesia and beyond. The integration of Islamic values with transformational leadership illustrates how higher education can simultaneously pursue academic excellence and moral-spiritual formation. As universities aim to meet global standards, strengthening lecturer leadership in both domains becomes vital for preparing graduates who are not only academically proficient but also ethically grounded. This aligns with the broader Islamic educational mission of cultivating *insân kâmil*, balanced individuals who contribute positively to society.

The results further demonstrate that lecturer leadership in learning has a substantial and significant impact on student learning behavior in Islamic higher education. This supports the core principles of Islamic Educational Leadership, which emphasize *amânah* (trust), *shura* (consultation), *adl* (justice), and *qudwah* (exemplary leadership) as essential elements of practical guidance (Al-Attas, 1979). In practice, lecturers are responsible not only for transmitting knowledge but also for modelling discipline, ethical conduct, and responsibility, fundamental traits of Islamic leadership. When these qualities are consistently demonstrated, students are more likely to reflect them in their academic and personal lives. As Akbaba Altun (2025) highlights in her study on crisis leadership, effective leadership requires resilience, discipline, and ethical responsibility, qualities that resonate with the Islamic concept of the *murabbi*, an educator-guide who nurtures both intellectual growth and character development.

This study also affirms the relevance of TLT in Islamic higher education. Transformational leadership highlights the lecturer's role as a motivator, innovator, and mentor who fosters intellectual, emotional, and moral growth (Bass & Avolio, 1994). When contextualized within Islamic values such as *tarbiyah*, *akhlak*, and moral purpose, these

transformational practices help create a holistic learning environment that integrates academic achievement with ethical formation (Asmendri et al., 2024). Hisbullah and Selvi (2018) underscore the importance of lecturers acting as motivators who re-energize students amid fatigue or disinterest, a role consistent with that of transformational leaders who inspire vision and perseverance. Similarly, Arifin (1978) and Sundari (2014) emphasize that effective pedagogy depends on thoughtful delivery, reflective mastery, and classroom management, all of which mirror transformational practices of individualized support and intellectual stimulation.

The statistical findings of this study, which show a substantial correlation between lecturer leadership and student learning behavior, also resonate with recent scholarship on sustainable and ethical leadership in education (Chichekian & Benteux, 2022; Chu et al., 2022; Dai & Ke, 2022). Elkaleh et al. (2025) argue that sustainable leadership integrates moral responsibility with long-term educational impact, while Uzorka and Kalabuki (2025) highlight that digital transformation demands educational leaders who balance technological innovation with human-centered guidance. In Islamic universities, this means lecturers are expected to innovate pedagogically while grounding their leadership in Islamic values, ensuring that students not only excel academically but also internalize ethical and spiritual principles.

The interaction of individual experiences and institutional culture further shapes student learning behavior. Yudhawati and Haryanto (2012) and Asmendri et al. (2024) define learning behavior as encompassing cognitive, affective, and psychomotor changes shaped by environmental engagement. Within the IELF, this aligns with *tarbiyah*, a nurturing process that holistically develops intellect, emotion, and spirituality. The lecturer's role as *qudwah hasanah* (exemplary role model) reinforces this process by embodying *amānah* and *'adl* in both classroom and campus interactions. When lecturers consistently model discipline, punctuality, and fairness, students internalize these values, creating a value-driven and orderly academic environment (Asmendri et al., 2024).

At the same time, transformational leadership perspectives help explain how students develop proactive learning habits, motivation, and resilience. Habits such as attentiveness, active participation, and consistent study practices are cultivated through repeated exposure to motivating and innovative lecturers. Asmendri et al. (2024) conceptualize leadership as influencing others toward collective goals, which parallels the Islamic emphasis on *shura* and collective responsibility in education. (Asmendri et al., 2024) argue that lecturer leadership directly affects student behaviour through structured guidance and the internalization of values. In practice, this means lecturers must integrate varied teaching methods, interactive strategies, and real-world applications to sustain students' motivation and ensure active engagement.

The relevance of these findings also extends to the broader global discourse on educational leadership in the digital age. Studies such as those by Crompton and Burke (2023), Chiu et al. (2023), and Adams et al. (2023) highlight how technological transformation reshapes teaching and learning, requiring adaptive leadership that balances innovation with ethical principles. In Islamic private universities, integrating Islamic educational leadership with transformational leadership theory provides a strong foundation for addressing these challenges. By inspiring, guiding, and modeling ethical behavior, lecturers play a dual role: advancing educational quality while preserving Islamic identity in an era of rapid change.

Taken together, this study confirms that lecturer leadership in Islamic higher education significantly shapes student learning behavior, both academically and morally. Grounded in Islamic principles and enriched by transformational practices, effective lecturer leadership enhances motivation, self-regulation, and active learning. This finding is consistent with global scholarship on sustainable and ethical leadership (Elkaleh et al., 2025; Uzorka & Kalabuki, 2025) and suggests that Islamic universities can strengthen their mission by investing in leadership development programs that integrate spirituality, ethics, and pedagogical innovation. Such

integration ensures that higher education graduates are not only competent and critical thinkers but also ethically grounded individuals prepared to contribute responsibly to society (Asmendri et al., 2024).

Finally, the findings suggest that leadership development programs for lecturers should prioritize both spiritual integrity and transformational skills. Training initiatives could focus on enhancing mastery of subject matter, motivational strategies, and mentoring roles, while grounding these practices in *shura* (consultation), *‘adl*, and *amānah*. Further research could explore additional variables influencing student learning behavior, such as institutional culture or technological integration, which account for the remaining 53.9% of variance not explained in this study. By adopting this integrated framework, Islamic higher education institutions can continue to refine leadership practices that foster active, ethical, and independent learners, thereby advancing the quality and global relevance of Islamic education.

CONCLUSION

This study concludes that lecturer learning leadership significantly and positively influences student learning behavior in Islamic private universities, with leadership performance rated “very good” across discipline, teaching skills, mastery of material, motivation, innovation, and personal character. In contrast, student learning behavior was rated “good,” reflected in strong habits, skills, and active engagement. These findings affirm that lecturers, as learning leaders, play a central role in shaping student outcomes by integrating pedagogical competence, moral integrity, and adaptability to global educational demands. The implication is that universities should strengthen lecturer development programs that emphasize leadership skills, emotional intelligence, and digital adaptability to foster both academic excellence and moral character. However, this study is limited to a specific sample of Islamic private universities, which may limit the generalizability of the findings to other contexts; future research should expand to diverse institutional settings and employ longitudinal designs to capture changes in leadership and learning behaviour over time.

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BIBLIOGRAPHY

- Abonamah, A. A., Tariq, M. U., & Shilbayeh, S. (2021). On the Commoditization of Artificial Intelligence. *Frontiers in Psychology*, 12(September), 1–12. <https://doi.org/10.3389/fpsyg.2021.696346>
- Adams, C., Pente, P., Lemermeyer, G., & Rockwell, G. (2023). Ethical principles for artificial intelligence in K-12 education. *Computers and Education: Artificial Intelligence*, 4(April 2022). <https://doi.org/10.1016/j.caeai.2023.100131>
- Ågerfalk, P. J. (2020). Artificial intelligence as a digital agency. *European Journal of Information Systems*, 29(1), 1–8. <https://doi.org/10.1080/0960085X.2020.1721947>
- Akbaba Altun, S. (2025). School principals’ crisis management and leadership roles in post-earthquake educational environments. *International Journal of Educational Management*, 39(4), 1061–1079. <https://doi.org/10.1108/IJEM-01-2025-0012>
- Al-Attas, S. M. N. (1979). Islam and Secularism.
- Al Darayseh, A. (2023). Acceptance of artificial intelligence in teaching science: Science Lecturers’ perspective. *Computers and Education: Artificial Intelligence*, 4. <https://doi.org/10.1016/j.caeai.2023.100132>
- Alotaibi, N. S., & Alshehri, A. H. (2023). Prospects and Obstacles in Using Artificial Intelligence

- in Saudi Arabia Higher Education Institutions—The Potential of AI-Based Learning Outcomes. *Sustainability* (Switzerland), 15(13). <https://doi.org/10.3390/su151310723>
- Ashour, S., El-Refae, G. A., & Zaitoun, E. A. (2021). Post-pandemic Higher Education: Perspectives from University Leaders and Educational Experts in the United Arab Emirates. *Higher Education for the Future*, 8(2), 219–238. <https://doi.org/10.1177/23476311211007261>
- Asmendri, A., Sari, M., Asrida, D., Muchlis, L. S., Febrian, V. R., & Azizah, N. (2024). Transformational Leadership in Islamic Education Institution Through Social Media Engagement. *Jurnal Pendidikan Islam*, 10(2), 336–349. <https://doi.org/10.15575/jpi.v10i2.40221>
- Assiri, A., Al-Ghamdi, A. A. M., & Brdese, H. (2020). From traditional to intelligent academic advising: A systematic literature review of e-academic advising. *International Journal of Advanced Computer Science and Applications*, 11(4), 507–517. <https://doi.org/10.14569/IJACSA.2020.0110467>
- Bass, B. M., & Avolio, B. J. (1994). Improving Organizational Effectiveness through Transformational Leadership.
- Carolus, A., Augustin, Y., Markus, A., & Wienrich, C. (2023). Digital interaction literacy model – Conceptualizing competencies for literate interactions with voice-based AI systems. *Computers and Education: Artificial Intelligence*, 4(August 2022). <https://doi.org/10.1016/j.caeai.2022.100114>
- Chaka, C. (2023). Fourth industrial revolution—a review of applications, prospects, and challenges for artificial intelligence, robotics and blockchain in higher education. *Research and Practice in Technology Enhanced Learning*, 18. <https://doi.org/10.58459/rptel.2023.18002>
- Chichekian, T., & Benteux, B. (2022). The potential of learning with (and not from) artificial intelligence in education. *Frontiers in Artificial Intelligence*, 5. <https://doi.org/10.3389/frai.2022.903051>
- Chiu, T. K. F., Xia, Q., Zhou, X., Chai, C. S., & Cheng, M. (2023). Systematic literature review on opportunities, challenges, and future research recommendations of artificial intelligence in education. *Computers and Education: Artificial Intelligence*, 4(November 2022), 100118. <https://doi.org/10.1016/j.caeai.2022.100118>
- Chu, S. T., Hwang, G. J., & Tu, Y. F. (2022). Artificial intelligence-based robots in education: A systematic review of selected SSCI publications. *Computers and Education: Artificial Intelligence*, 3(May), 100091. <https://doi.org/10.1016/j.caeai.2022.100091>
- Crompton, H., & Burke, D. (2023). Artificial intelligence in higher education: the state of the field. *International Journal of Educational Technology in Higher Education*, 20(1). <https://doi.org/10.1186/s41239-023-00392-8>
- Dai, C. P., & Ke, F. (2022). Educational applications of artificial intelligence in simulation-based learning: A systematic mapping review. *Computers and Education: Artificial Intelligence*, 3. <https://doi.org/10.1016/j.caeai.2022.100087>
- Darayseh, A. Al. (2023). Computers and Education: Artificial Intelligence Acceptance of artificial intelligence in teaching science: Science Lecturers' perspective. *Computers and Education: Artificial Intelligence*, 4(October 2017), 100132. <https://doi.org/10.1016/j.caeai.2023.100132>
- El-Sabagh, H. A. (2021). Adaptive e-learning environment based on learning styles and its impact on development of students' engagement. *International Journal of Educational Technology in Higher Education*, 18(1), Article 53. <https://doi.org/10.1186/s41239-021-00289-4>

- Elkaleh, E., Ali, N., Abu Khurma, O., & El Sherif, H. M. (2025). Towards a model for sustainable leadership in educational contexts: A moderated mediated analysis of UAE and Hong Kong. *Social Sciences & Humanities Open*, 11, 101478. <https://doi.org/10.1016/j.ssaho.2025.101478>
- Fan, X., & Li, J. (2023). Artificial Intelligence-Driven Interactive Learning Methods for Enhancing Art and Design Education in Higher Institutions. *Applied Artificial Intelligence*, 37(1). <https://doi.org/10.1080/08839514.2023.2225907>
- Kovacevic, M., Dagen, T., & Rajter, M. (2025). Leading AI-Driven Student Engagement: The Role of Digital Leadership in Higher Education. *Education Sciences*, 15(6), 775. <https://doi.org/10.3390/educsci15060775>
- Macfarlane, B., Bolden, R., & Watermeyer, R. (2024). Three perspectives on leadership in higher education: traditionalist, reformist, pragmatist. *The International Journal of Higher Education*. <https://doi.org/10.1007/s10734-023-01174-x>
- Mujallid, A. T. (2024). Digital Active Learning Strategies in Blended Environments to Develop Students' Social and Emotional Learning Skills and Engagement in Higher Education. *European Journal of Education*, 59(4), e12748. <https://doi.org/10.1111/ejed.12748>
- Parrish, D. R. (2015). The relevance of emotional intelligence for leadership in a higher education context. *Studies in Higher Education*, 40(5), 821-837. <https://doi.org/10.1080/03075079.2013.842225>
- Pyrzack, F., & Oh, D. (2025). Coefficient of determination. In *Making Sense of Statistics* (Chapter on correlation & prediction). Taylor & Francis
- Sheskin, D. J. (2011). *Handbook of parametric and nonparametric statistical procedures* (5th ed.). Chapman & Hall/CRC
- Uzorka, A., & Kalabuki, K. (2025). Educational leadership in the digital age: An exploration of technology's impact on leadership practices. *Social Sciences & Humanities Open*, 11, 101581. <https://doi.org/10.1016/j.ssaho.2025.101581>
- Visintini, G. (2022). Reflections on an Academic Leadership Approach to Implementing Digital Education in Higher Education. *Education Sciences*, 12(12), 904. <https://doi.org/10.3390/educsci12120904>
- Wang, S., Lu, Z., Li, C., & Zhang, Y. (2024). How teachers' emotional leadership influences college students' learning engagement. *Behavioral Sciences*, 14(9), 748. <https://doi.org/10.3390/bs14090748>
- Yudhawati, R., & Haryanto, D. (2012). *Teori-teori dasar psikologi pendidikan*. Jakarta: Prestasi Pustaka.