Article

The Effect of Learning Styles on Academic Achievement of EFL Students in Islamic Institution

https://doi.org/10.31004/jele.v11i1.1805

*Dyah Hanum Palmatiwi, Fara Suseno Putri, Nur Peniy Rianti, Rahmahdalena Putri Khairunnisa, Rani, Siti Rahmawati, Abdul Syahid[abcdefg]

[1234567]Universitas Islam Negeri Palangka Raya, Indonesia
Corresponding Author: rmhdlnaputri@gmail.com

ABSTRACT

A substantial body of research suggests that learning styles contribute to learners' academic performance; however, evidence regarding their influence in tertiary-level EFL contexts remains inconsistent. While many studies report positive correlations between learning styles and language achievement, recent findings indicate that learning style differences do not always lead to significant performance variations. This inconsistency highlights the need for further investigation, particularly in Islamic higher education settings where empirical studies are still limited. Therefore, this study aims to examine whether learning styles—visual, auditory, and kinesthetic—significantly affect the academic achievement of EFL students. Employing a quantitative *ex post facto* design, data were collected from 30 students using a learning style questionnaire adapted from DePorter et al. (2007) measured through a five-point Likert scale, along with official final exam scores from English skill courses. The data were analyzed using One-Way ANOVA, Tukey HSD, and a Kruskal–Wallis test. The results revealed no significant differences in academic achievement among the three learning style groups, $F(2, 27) = 0.334$, $p = 0.719$, a finding reinforced by the non-parametric test ($p = 0.864$). Although kinesthetic learners showed slightly higher mean scores, the differences were not statistically meaningful. These findings suggest that learning styles do not significantly influence EFL students' academic achievement in Islamic higher education. The study underscores the importance of adopting multimodal and flexible instructional approaches rather than relying solely on learning style-based teaching.

Check for updates

INTRODUCTION

A growing body of research highlights that learning styles play an essential role in shaping students' academic performance and critical thinking skills (Hepriansyah, 2023). Nevertheless, scholarly debates surrounding the effectiveness and applicability of learning styles remain unresolved, particularly regarding whether individual learning preferences consistently translate into improved learning outcomes. Most existing empirical studies have primarily focused on elementary and secondary education contexts, leaving research at the tertiary level especially in English language learning relatively underexplored.

This limitation is even more evident within the context of Islamic higher education, where English instruction is often integrated with religious values, character education, and distinct pedagogical traditions. Students in Islamic universities are typically exposed to dual academic demands: mastering general academic competencies, such as English language skills, while simultaneously engaging with Islamic studies that emphasize reflective, communicative, and value-based learning. Despite these unique characteristics, little attention has been paid to how learning style preferences function within this educational environment, creating a critical gap in understanding whether findings from general higher education settings are applicable to Islamic higher education institutions.

Moreover, previous studies have produced inconsistent findings regarding the role of learning styles in language learning outcomes. For example, Benitez-Correa et al. (2022) reported that variations in learning styles did not result in significant differences in reading and writing performance among distance higher education learners. In contrast, Febliza et al. (2023) demonstrated that instructional designs aligned with students' learning preferences such as interactive web modules significantly enhanced critical thinking skills by promoting learner autonomy, simulation, and immediate feedback. Similarly, Minda and Perdana (2023) found that visual, auditory, and kinesthetic learning styles positively influenced vocabulary achievement, underscoring the potential benefits of adapting instruction to learners' preferences.

Further empirical evidence suggests a meaningful relationship between learning styles and English proficiency. Suherman (2018) revealed that high-achieving writers tended to favor communicative learning styles, while Suparman (2022) identified a strong association between effective learning style use and students' reading comprehension. Hepriansyah (2023) also reported that learning style preferences accounted for nearly 30% of the variance in English achievement, with visual learning styles exerting a particularly strong influence. Additionally, Liu (2023) highlighted that while classroom anxiety negatively affected English performance, learning style preferences contributed positively to students' achievement levels.

Taken together, these findings indicate that learning styles may not function as the sole determinant of academic success but nonetheless play a meaningful role in language learning outcomes. However, the persistence of mixed results across educational contexts, combined with the scarcity of research conducted in Islamic higher education settings, highlights a significant research gap. Specifically, there is limited empirical evidence examining whether learning styles influence English language achievement among students in Islamic universities and whether distinct learning style preferences lead to significant differences in academic performance.

Therefore, this study aims to investigate the influence of learning styles on students' academic achievement in English language skills at the university level, with particular attention to the context of Islamic higher education. By addressing this gap, the study seeks to contribute to the ongoing debate on learning styles and provide pedagogical insights relevant to English instruction in Islamic higher education institutions.

METHOD

Research Design

The population of this study consisted of all students enrolled in the English Education Study Program at an Islamic higher education institution during the current academic semester. This population was selected because the students share similar academic backgrounds and are actively engaged in English language skill courses such as Reading, Writing, and Speaking. According to Creswell (2014), a population refers to a group of individuals who possess shared characteristics and become the focus of a researcher's investigation.

Although the population included all enrolled students, the study focused on students in the third and fifth semesters, which correspond to sophomore-level students. These levels were selected because students at this stage have completed several English skill courses and therefore possess sufficient academic experience for their learning styles and achievement to be meaningfully examined.

Given that the number of students in semesters three and five was relatively small and accessible, this study employed a census (total sampling) technique, in which all students from these two semesters who met the inclusion criteria were invited to participate. Total sampling is considered appropriate when the population size is limited, as it enhances data representativeness and reduces sampling bias (Creswell, 2014). The inclusion criteria required students to (1) be actively enrolled in the English Education Study Program, (2) be registered in the third or fifth semester, and (3) complete both the learning style questionnaire and the

required academic records. Students with incomplete questionnaire responses or unavailable academic data were excluded from the analysis.

As a result, a total of 30 students from semesters three and five were included as the final sample. Based on the results of the learning style questionnaire adapted from DePorter et al. (2007), the students were classified into three learning style categories: 5 auditory learners, 14 kinesthetic learners, and 11 visual learners. Their academic achievement scores were obtained from official final examination records in English skill courses such as Reading, Writing, and Speaking.

Research Instruments

Two instruments were used for data collection:

1.Learning Style Questionnaire

Students' learning styles were identified using a questionnaire adapted from DePorter et al. (2007). The instrument consisted of items representing three learning style categories—visual, auditory, and kinesthetic—and was measured using a five-point Likert scale. Higher scores on each category indicated the student's dominant learning style. Prior to use, the questionnaire was tested for validity using item–total correlation and for reliability using Cronbach's Alpha, with $\alpha \geq 0.70$ considered acceptable (Fajari et al., 2020).

2.Academic Record (Achievement Test)

Students' academic achievement in English was measured through their official final exam scores from English skill courses such as Reading, Writing, Speaking, and Integrated Skills. These scores were averaged to generate each student's overall English achievement score. Using official academic records ensured that the data were accurate, objective, and representative of students' actual performance.

Data Collection Technique

The data collection procedure in this study was conducted in two stages. First, the learning style questionnaire adapted from DePorter et al. (2007) was administered to students enrolled in the English Education Study Program, particularly those in the third and fifth semesters. Although the questionnaire was distributed to all eligible students at these levels, only students who completed the instrument fully were considered for further analysis.

Second, students' academic achievement scores were collected from official program records. These scores were obtained from final examinations in English skill courses such as Reading, Writing, and Speaking. Only students with complete questionnaire responses and complete academic records were included in the final dataset, resulting in a total sample of 30 students. The integration of questionnaire data and official academic records provided a reliable basis for analyzing the relationship between learning styles and English academic achievement.

Data Analysis Technique

The data were analyzed using Jasp to determine whether students' learning styles had a significant effect on their English academic achievement. Before conducting the main analysis, several assumption tests were carried out. Normality was examined using the Kolmogorov–Smirnov test, while homogeneity of variance was assessed using Levene's Test. The homogeneity result showed that the data met the required assumption, as indicated by *F = 0.392* and *p = 0.679*, meaning that the variances across the learning style groups were equal (p > 0.05).

After meeting the analytical assumptions, a One-Way ANOVA was performed to identify whether there were significant differences in academic achievement among visual, auditory, and kinesthetic learners. The ANOVA result indicated no significant differences across groups, $F_{(2, 27)} = 0.334$, *p = 0.719*, with a small effect size ($\eta^2 = 0.024$). This means that learning style categories did not significantly influence students' English academic performance.

To further verify these findings, a Post Hoc Tukey HSD test was conducted to examine pairwise differences among the learning style groups. The results showed that all comparisons were statistically non-significant, with auditory–kinesthetic (p = 0.962), auditory–visual (p =

0.933), and kinesthetic–visual (p = 0.696). These values confirmed that no specific group differed significantly from another.

In addition, a Kruskal–Wallis test was employed as a non-parametric alternative to validate the ANOVA outcomes. The test result, *χ²(2) = 0.293, p = 0.864*, further supported the conclusion that learning styles did not significantly affect students' academic achievement.

Descriptive statistics were also examined to provide a clearer overview of students' performance. The mean scores for each learning style group were as follows: auditory learners (M = 81.40, SD = 3.257), kinesthetic learners (M = 81.98, SD = 4.035), and visual learners (M = 80.60, SD = 4.665). Although kinesthetic learners had a slightly higher average score, the differences were not statistically meaningful. These analytical procedures followed the approach recommended by Fajari et al. (2020) for analyzing relationships between learning styles and academic performance.

FINDINGS AND DISCUSSION

This section presents and discusses the findings of the study addressing the research objective, namely to examine whether learning styles visual, auditory, and kinesthetic significantly influence the English academic achievement of EFL students in an Islamic higher education context. The findings are reported using descriptive and inferential statistical analyses, followed by an interpretation grounded in relevant literature.

Differences in English Academic Achievement Among Learning Style Groups

Table 1. Descriptive Statistics of Students' Academic Achievement Based on Learning Styles

Learning Style	N	Mean	SD	SE	Coefficient of Variation
Auditory	5	81.40	3.257	1.456	0.040
Kinesthetic	14	81.98	4.035	1.079	0.049
Visual	11	80.60	4.665	1.406	0.058

Descriptive statistical analysis was conducted to provide an overview of students' English academicachievement across learning style groups. The results showed that kinesthetic learners obtained the highest mean score (M = 81.98, SD = 4.04), followed by auditory learners (M = 81.40, SD = 3.26), and visual learners (M = 80.60, SD = 4.67). Although these differences appear numerically observable, the relatively similar standard deviations indicate limited variability among the groups.

Before conducting the main inferential analysis, assumption testing was performed.

Table 2. One-Way ANOVA Results for Learning Styles and English Academic Achievement

Source	Sum of Squares	df	Mean Square	F	p	η²
Learning styles	11.67	2	5.836	0.334	0.719	0.024
Residuals	471.71	27	17.471	—	—	—

Note. p > 0.05 indicates no significant effect of learning styles on academic achievement.

Levene's Test indicated that the homogeneity of variance assumption was met (F = 0.392, p = 0.679). A One-Way ANOVA was then conducted to examine whether the observed differences in mean scores were statistically significant. The results revealed no significant difference in English academic achievement among the three learning style groups, F(2, 27) = 0.334, p = 0.719, with a small effect size (η² = 0.024). This indicates that learning style categories explained only a minimal proportion of variance in students' academic achievement.

Post hoc analysis using the Tukey HSD test further confirmed the ANOVA results.

Table 3. Tukey HSD Post Hoc Test Results

Comparison	Mean Difference	SE	df	t	p (Tukey)
Auditory – Kinesthetic	–0.575	2.178	27	–0.264	0.962
Auditory – Visual	0.801	2.254	27	0.355	0.933

The Effect of Learning Styles on Academic Achievement of EFL Students in Islamic Institution

Kinesthetic – Visual	1.376	1.684	27	0.817	0.696

Note. All p-values > 0.05, indicating no significant differences between any pair of learning styles.

None of the pairwise comparisons showed statistically significant differences: auditory–kinesthetic (p = 0.962), auditory–visual (p = 0.933), and kinesthetic–visual (p = 0.696).

Table 4. Kruskal–Wallis Test for Learning Styles

Factor	Statistic	df	p
Learning styles	0.293	2	0.864

Note. Non-parametric results confirm no significant difference among groups.

To ensure the robustness of these findings, a Kruskal–Wallis test was conducted as a non-parametric alternative, yielding consistent results, $\chi^2(2) = 0.293$, p = 0.864. Overall, the findings indicate that students' English academic achievement did not differ significantly based on their dominant learning styles.

Interpretation of the Findings

The findings of this study demonstrate that learning styles do not significantly influence English academic achievement among EFL students in an Islamic higher education context. Although kinesthetic learners showed slightly higher mean scores than auditory and visual learners, the differences were not statistically meaningful. This suggests that learning style preference alone is not a decisive factor in determining academic success at the university level.

These results support previous studies that question the predictive power of learning styles in higher education. Benitez-Correa et al. (2022) similarly reported that differences in learning styles did not result in significant variations in students' reading and writing performance. Such findings suggest that university students tend to employ multiple learning strategies, rather than relying exclusively on a single dominant learning style, which may reduce the observable impact of learning style classifications on academic outcomes.

One possible explanation for the absence of significant differences lies in the instructional practices commonly employed in university-level English courses. English instruction in higher education particularly within Islamic universities often integrates visual materials, oral explanations, collaborative discussions, and task-based activities. As noted by Febliza et al. (2023), multimodal instructional approaches can accommodate diverse learning preferences simultaneously, thereby minimizing performance disparities among learners with different learning styles.

In addition, recent research suggests that non-cognitive factors may exert a stronger influence on academic achievement than learning styles alone. Liu (2023) highlighted that emotional factors such as anxiety, motivation, and affective readiness play a crucial role in English language learning outcomes. Within the context of Islamic higher education, where character education and reflective learning are emphasized, these affective and motivational dimensions may further outweigh the influence of individual learning style preferences.

From a pedagogical perspective, the findings imply that instructional decisions should not rely solely on learning style-based categorizations. Instead, flexible and inclusive teaching strategies that combine visual, auditory, and kinesthetic elements are more likely to support diverse learners effectively. Emphasizing multimodal instruction and strengthening students' self-regulated learning strategies may contribute more meaningfully to academic achievement than attempting to match instruction to specific learning styles.

Implications for Teaching and Learning

The results of this study suggest that instructional decisions should not be based solely on students' learning styles. Instead, educators are encouraged to employ diverse and flexible teaching methods that address a wide range of learner needs. Approaches such as blended learning, task-based learning, and multimodal instruction may help students engage more effectively with English language content.

These findings also highlight the importance of strengthening students' internal learning factors, such as motivation, metacognitive strategies, and self-regulated learning. Supporting students in developing adaptive learning strategies may yield better academic outcomes than

attempting to match instruction to specific learning styles. Institutions may also consider offering academic workshops focusing on learning strategies, study habits, and self-regulation to further enhance students' learning effectiveness

CONCLUSIONS

This study aimed to examine whether students' learning style preferences visual, auditory, and kinesthetic significantly influence English academic achievement among EFL students in an Islamic higher education context. To address this objective, a quantitative ex post facto design was employed, involving 30 students from the English Education Study Program. Data were collected using a learning style questionnaire and official academic records and analyzed through One-Way ANOVA, supported by Tukey HSD and Kruskal–Wallis tests. The findings consistently revealed that there were no statistically significant differences in English academic achievement among students with different dominant learning styles. Although kinesthetic learners demonstrated slightly higher mean scores than auditory and visual learners, the observed differences were small and statistically insignificant. These results indicate that learning style preference alone does not play a decisive role in determining English academic performance at the university level, particularly within the context of Islamic higher education. The absence of significant differences suggests that other factors such as instructional practices, students' motivation, learning strategies, and psychological readiness may exert a stronger influence on academic achievement than learning style categorizations. Given that university-level English instruction often incorporates multimodal and integrative teaching approaches, the potential impact of individual learning style preferences may be minimized. Based on these findings, this study concludes that instructional practices should not rely solely on aligning teaching strategies with students' perceived learning styles. Instead, educators are encouraged to adopt flexible, multimodal, and student-centered approaches that support diverse learners simultaneously. Strengthening students' internal learning processes, including self-regulation and metacognitive skills, may provide more meaningful support for academic success in English language learning within Islamic higher education institutions.

ACKNOWLEDGEMENTS

REFERENCES

Ariani, S., Valiantien, N. M., & Rachmawaty, N. (2021). Students' language learning style preferences at English Literature Study Program. *CaLLs: Journal of Culture, Arts, Literature, and Linguistics*, 7(1), 103–112.

Benitez-Correa, C., Vargas-Saritama, A., Gonzalez-Torres, P., Quinonez-Beltran, A., & Ochoa-Cueva, C. (2022). Students' preferences and learning styles in relation to reading and writing strategies at distance higher education. International Journal of Learning, Teaching and Educational Research, 21(4), 316–336. https://doi.org/10.26803/ijlter.21.4.18

Creswell, J. W. (2014). Research design: Qualitative, quantitative, and mixed methods approaches (4th ed.). Thousand Oaks, CA: Sage Publications. Available at: https://spada.uns.ac.id/pluginfile.php/510378/mod_resource/content/1/creswell.pdf

DePorter, B., Reardon, M., & Singer-Nourie, S. (2007). Quantum teaching: Orchestrating student success. Allyn and Bacon.

Febliza, A., Afdal, Z., & Copriady, J. (2023). Improving students' critical thinking skills: Is interactive video and interactive web module beneficial? International Journal of Interactive Mobile Technologies, 17(3), 70–86. https://doi.org/10.3991/ijim.v17i03.34699

Fithrotunnisa, E., Khoiriyah, E., & Imtihanudin, D. (2022). The Comparative Analysis Of Students' Learning Styles On Their Achievement In Reading Skills. *Cakrawala Pedagogik*, *6*, 85–98. https://doi.org/10.51499/cp.v6i2.329

Fitriani, V. F. (2020). Portraying EFL students' learning styles in utilizing mobile-assisted language learning: How to be a good language learner. *Journal of Teaching & Learning English in Multicultural Contexts (TLEMC)*, 4(1), 1–10. http://jurnal.unsil.ac.id/index.php/tlemc/index

Fraenkel, J. R., Wallen, N. E., & Hyun, H. H. (2012). How to design and evaluate research in education (8th ed.). McGraw-Hill.

Hepriansyah, A. (2023). English learning styles of the eleventh-grade students in SMA Negeri 07 Kendari. Journal of Nusantara Education, 3(1), 22–30. https://doi.org/10.57176/jn.v3i1.81

Koç, M., Canan Pakeloğlu, A., Bayar, B., & Bayar, K. (2025). Academic achievemenht of undergraduate health students: Effect of learning styles and personal-familial factors. *Children and Youth Services Review*, *177*. https://doi.org/10.1016/j.childyouth.2025.108471

Liu, M. (2023). English classroom anxiety, learning style and English achievement in Chinese university EFL students. Sustainability, 15(18), 13697. https://doi.org/10.3390/su151813697

Minda, S., & Perdana, P. R. (2023). Learning styles and vocabulary achievement. Lingua, 19(1), 101–111. https://doi.org/10.34005/lingua.v19i1.2773

Nguyen, H., Nguyen, T., & Vu, C. (2024). Analyzing learning style patterns in higher education: A bibliometric examination spanning 1984 to 2022 based on the Scopus database. *European Journal of Educational Research, 13*(4), 1841-1857. https://doi.org/10.12973/eu-jer.13.4.1841

Norhasanah, N., Yusuf, F., & Suherdi, D. (2022). Efl Learners' Preferences And Perspectives On Learning Styles. *Language Literacy: Journal of Linguistics, Literature, and Language Teaching, 6*, 382-399. https://doi.org/10.30743/ll.v6i2.6172

Ozgul, B. (2017). The Effects of Learning-Style Based Activities on Students' Reading Comprehension Skills and Self-Efficacy Perceptions in English Foreign Language Classes. *Higher Education Studies, 7*, 35. https://doi.org/10.5539/hes.v7n4p35

PAYAPROM, S., & PAYAPROM, Y. (2020). Identifying learning styles of language learners: A useful step in moving towards the learner-centred approach. *Dil ve Dilbilimi Çalışmaları Dergisi*, *16*, 59-72. https://doi.org/10.17263/jlls.712646

Rafiq, M., Hardiyanto, A., & Sumarno. (2023). An analysis of student learning style in learning English in Sekolah Indonesia Kuala Lumpur, Malaysia. *VOLES: Voices of English Language Education Society*, *7*(1), 145–157. https://doi.org/10.29408/veles.v7i1.7869

Rinekso, A. (2020). Pros and Cons of Learning Style: an Implication for English Language Teachers. In *Acuity: Journal of English Language Pedagogy, Literature and Culture* (Vol. 6). https://doi.org/10.35974/acuity.v6i1.2396

Septiani, D., Lestari, T., & Azizah, D. M. (2024). Analysis of Learning Style Profiles to Optimize Student Achievement. *Jurnal Pijar Mipa*, *19*(6), 959-963. https://doi.org/10.29303/jpm.v19i6.7613

Stated University of Jakarta, Indonesia, UswatunHasanah_9919920002@mhs.unj.ac.id, & Hasanah, U. (2023). Exploring the need for using science learning multimedia to improve critical thinking elementary school students: Teacher perception. International Journal of Instruction, 16(1), 417–440. https://doi.org/10.29333/iji.2023.16123a

Suherman, A. (2018). Examining relationships between EFL students' learning styles, writing proficiency, and self-assessment. Journal of English Language Pedagogy, 4(2), 112–123.

Suparman, U. (2022). Correlation of vocabulary proficiency and learning styles with reading comprehension of prospective English teachers: A case of Universitas Lampung. Jurnal Pendidikan Progresif, 12(3), 1021–1033. https://doi.org/10.23960/jpp.v12.i3.202203

Vendiola, S. O. (2024). Students' Language Learning Preferences in Taking In and Presenting Information to Others. *Journal of Interdisciplinary Perspectives*, 2(7), 605–614. https://doi.org/10.69569/jip.2024.0222

Wardani, N. A. (2025). Beyond Majors: Exploring the Diversity of Learning Styles Among University Students in English Foreign Language Classroom. *Proceedings Series on Social Sciences & Humanities*, 21, 26-36. Retrieved from https://conferenceproceedings.ump.ac.id/pssh/article/view/1505

Wells, M. S., Morrison, J. D., & López-Robertson, J. (2022). Building critical reading and critical literacy with picturebook analysis. The Reading Teacher, 76(2), 191–200. https://doi.org/10.1002/trtr.2130

Widharyanto, B., & Binawan, H. (2020). Learning Style And Language Learning Strategies Of Students From Various Ethnics In Indonesia. *Jurnal Cakrawala Pendidikan, 39*(2), 480-492. https://doi.org/10.21831/cp.v39i2.28173

Yousefi Afshari, Z., & Pourhossein Gilakjani, A. (2023). Investigating the Impact of Learning Styles on Reading Comprehension Skills and Self-Efficacy Perceptions: Evidence from Iranian Intermediate EFL Learners. *IJREE,* 8(4), 61-80. http://ijreeonline.com/article-1-874-en.html

Zuhri, S. A. N. A., Susanto, & Sukarsono. (2025). The correlation among learning styles, learning motivation, and writing performance of undergraduate EFL learners. *Proceeding International Conference on Islam, Law, and Society (INCOILS)*, 4(1). https://doi.org/10.70062/incoils.v4i1.254