

## Learning Style Profiles of Gen Z University Arabic Learners

Fina Aunul Kafi<sup>1</sup>  

<sup>1</sup> Universitas Al-Falah As-Sunniah, Indonesia

American Psychological Association 7th Edition Style Citation

Correspondence Author : Fina Aunul Kafi [dewakusiwa@gmail.com](mailto:dewakusiwa@gmail.com)

### Article History

Received 10 March 2026

Revised 31 March 2026

Accepted 9 April 2026

### Keywords

Arabic Learning; Educational Innovation; Generation Z; Learning Styles; Multimodal Learning

### Subjects

Arabic Language Education; Multimodal Learning; Adaptive Pedagogy

### Article Structure

[Introduction](#)

[Method](#)

[Findings and Discussion](#)

[Conclusion](#)

[References](#)

### Abstract

Understanding the learning style profiles of Generation Z Arabic language university students is crucial, as their technology-driven cognitive patterns often misalign with conventional pedagogical approaches, necessitating adaptive strategies to optimize Arabic language learning in higher education. This study aims to investigate the learning style profiles of Generation Z students in Arabic Language Department of Universitas Al-Falah As-Sunniah Jember East Java Indonesia. By employing a descriptive statistical design, this research analyzes the distribution and dominance of visual, auditory, and kinesthetic modalities among 48 respondents. The results of this study indicate that the learning style of Generation Z students is significantly oriented toward kinesthetic (mean = 8.00) and visual (mean = 7.56) modalities, while the auditory aspect shows the lowest preference (mean = 6.63). These findings suggest a cognitive shift in digital-native students who prioritize physical engagement and structured visual representation over conventional auditory instructions. The study further identifies that the main obstacles in Arabic learning stem from mismatched pedagogical methods that rely heavily on lecturing. Consequently, this research recommends the integration of multimodal learning strategies, such as interactive infographics and experiential learning activities, to optimize students' memory retention and linguistic competence in the 21st-century educational context.



@ 2026 The Author(s). Published by Fakultas Tarbiyah dan Ilmu Keguruan, Universitas Islam Negeri Sultan Aji Muhammad Idris Samarinda, Indonesia

This is an Open Access article distributed under the terms of the [Creative Commons Attribution 4.0 International License](https://creativecommons.org/licenses/by/4.0/), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

## A. Introduction

The world of Arabic language education is currently at a nadir of effectiveness due to the failure of classical methods to reach the cognitive structures of Generation Z (Uluum et al., 2025). Distressing sociological facts indicate that teaching patterns for syntax (*nahwu*) and morphology (*sharaf*)—which remain dominated by one-way lectures and mechanistic memorization—have triggered a profound sense of intellectual alienation among students. This generation, raised within a digital ecosystem, is no longer capable of absorbing a language presented through abstract and rigid frameworks (Rahmawati et al., 2025). Consequently, a sharp disconnect has emerged between the traditional delivery of the language and the biological way the student's brain processes information (Hotimah, 2025). They demand a learning experience that is interactive, rapid, and technology-based to truly feel connected to the material being studied (Yasin, 2025).

Ironically, amidst the abundance of digital platforms, Arabic language instruction in higher education remains frequently trapped in approaches that rely solely on static texts devoid of multisensory engagement (Yasin, 2025). Field findings suggest that Generation Z students possess a powerful learning orientation toward visual elements and collaborative practices that transcend the boundaries of traditional textbooks (Sayekti et al., 2021). The reluctance of educators to integrate multimodal approaches—such as the use of social media, gamification, and multimedia—will only perpetuate the stagnation of students' linguistic proficiency (Uluum et al., 2025). If this pedagogical revolution, which addresses the biological and psychological aspects of students, continues to be ignored, Arabic will forever be perceived as a difficult, tedious subject that has lost its relevance in the real lives of students (Hotimah, 2025).

This reality is even more worrying in the context of Arabic learning in Indonesia, where challenges such as lack of motivation, cultural influence, and incompatibility of traditional teaching methods—such as monotonous memorization—lead to low understanding and rejection of Arabic as a globally competitive life skill (Makfiro et al., 2024; Rokhani et al., 2022). Although Gen Z is called digital natives with a strong preference for blended learning and interactive technologies such as gamification and digital platforms (Nisa et al., 2022; Nukman & Hidayat, 2024), the empirical literature shows there is no single dominant learning style, but rather variations such as Diverging (Kolb) or Active-Sensing-Visual-Sequential (Felder-Silverman) (Chan & Lee, 2023; Qatrunnada et al., 2025). which is rarely accommodated in the conventional Arabic curriculum, thus potentially exacerbating the language proficiency crisis among Indonesian Muslim youth.

VAK and Kolb's learning style models advocate instruction tailored to Generation Z students' visual, auditory, and kinesthetic preferences in Arabic language learning at Universitas Al-Falah As-Sunnayah Jember, yet traditional lecture methods persist despite these digital natives' need for multimodal approaches to boost retention and proficiency (Sayekti et al., 2021). However, the reality in Indonesian universities shows a striking discrepancy, namely that Arabic teaching methods are still dominated by traditional approaches of memorization and lectures, which fail to attract Gen Z as digital natives with a preference for multimodal and interactive technology, thereby lowering motivation and proficiency (Hotimah, 2025).

Previous research has largely addressed Gen Z's learning styles in general in English or EFL, such as strong visual-kinesthetic preferences (Sayekti et al., 2021), or Arabic language challenges in the digital age such as low teacher literacy and limited infrastructure (Yasin, 2025). A crucial gap arises because there have been no specific empirical studies analyzing the learning styles of Gen Z students in learning Arabic in more specific contexts, although there are general recommendations for blended learning and gamification that have not been quantitatively validated in this group (Hotimah, 2025).

Previous research has more discussed common strategies used by Generation Z, such as gamification in syntactic learning. However, the studies have not compared the expected theory with empirical data from students who have a special preference for Arabic. As a result, there are still open questions about how the curriculum can be adapted to the context of Islamic boarding schools or universities (Dalle & Afriadi, 2025).

This gap shows that research on the VAK learning style profile of Gen Z students in Arabic language learning is still very limited, especially in Arabic Language Departement in Islamic universities. Most of the existing literature only discusses it in general terms and has not been supported by quantitative data specifically examining the group.

Based on the background, gap analysis, and state of the art that have been described, this study aims to empirically investigate the VAK profile of Generation Z students in Arabic language learning in higher education. In particular, the objectives of the study include (1) mapping the distribution of dominant learning styles (visual, auditory, kinesthetic) in the respondent group; and (2) formulate recommendations for adaptation of Arabic learning strategies that integrate multimodality for learning optimization.

## B. Method

This study uses a quantitative descriptive design that aims to investigate the VAK profile of Generation Z students in Arabic language learning in higher education objectively through numerical data. This approach was chosen because it is appropriate to identify the distribution patterns of dominant learning styles such as VAK, without manipulation of independent variables. The design follows the principle of positivism, with a focus on generalizations limited to similar populations in Indonesian Islamic universities.

The research population consists of students of the Arabic Language Education Study Program (PBA) of Al-Falah As-Sunniah University, the majority of whom belong to Generation Z (born 1997-2012). A sample of 48 students was selected by purposive sampling, had taken at least 4 Arabic courses (Nahwu, Sharaf, Balaghah, and Qira'ah), and was willing to participate voluntarily. This sample size is adequate for descriptive analysis.

Data collection in this study utilized a manual questionnaire specifically designed to measure students' learning styles based on the VAK model, comprising 6 closed statements entirely focused on the Arabic language learning context. Each item was completed directly by respondents using a 1-5 Likert scale (strongly disagree to strongly agree), enabling quantitative mapping of learning preferences. The instrument underwent content validity testing by 3 Arabic education experts

(CVR=0.83, exceeding the critical threshold of 0.70) and reliability assessment via Cronbach's Alpha ( $\alpha=0.81$  for visual, 0.79 for auditory, 0.84 for kinesthetic), demonstrating good internal consistency ( $>0.70$ ). These psychometric evaluations confirmed the instrument's quality prior to administration to 48 respondents.

The questionnaire comprises 6 Likert-scale items measuring VAK preferences in Arabic learning: 2 visual items (written examples, visual aids), 2 auditory items (oral explanations, discussions), and 2 kinesthetic items (direct practice, active tasks).

**Table 1. Questionnaire**

No	Item Description	Modality
X1	I find it easier to understand Arabic material if I look at written examples (text, slides, whiteboard)	Visual
X2	It helps if the Arabic material is presented with tables/colors/diagrams	Visual
X3	I understand Arabic material more easily if I listen to oral explanations	Auditory
X4	I understand faster when learning Arabic through verbal discussions/explanations	Auditory
X5	I understand Arabic more easily if I practice it directly (practice, role play, active tasks)	Kinesthetic
X6	I get bored quickly if learning Arabic is just reading/listening without activity	Kinesthetic

The data analysis in this study is purely quantitative descriptive and conducted using SPSS software version 29, with a focus on describing the learning style preference patterns of VAK Gen Z students without inferential hypothesis testing or variable manipulation. The analysis process began with the input of raw data from 48 respondents in the form of questionnaires (6 questionnaire items) into the SPSS worksheet, followed by data cleaning to detect and handle outliers or missing values through descriptive statistics (frequency, mean, median).

Furthermore, comprehensive descriptive statistical calculations were carried out in the form of data centering measures (mean, median) and distribution (standard deviation, range, variance) for each VAK dimension, as well as analyzing the distribution of dominant preference percentages through frequency tables and graph visualizations. The results of the analysis were focused on the identification of the most dominant learning styles, the relative frequency of each category, and the multimodal profile if the respondents showed a high score of  $>3$  in more than one dimension, thus producing an objective and measurable picture of the VAK profile of PBA students of Al-Falah As-Sunnayah University without causal interpretation or generalization of the broad population.

### C. Findings and Discussion

To better understand how Generation Z students absorb Arabic materials, the first step is to map the tendencies of their learning styles. Through the processing of descriptive statistical data, a fairly interesting picture can be seen of how visual, auditory, and kinesthetic dimensions play a role in their learning process. Details about the distribution of scores and average scores of the three aspects can be observed in Table 1 below.

Table 2. Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Visual	48	3	10	7.56	1.529
Auditory	48	2	10	6.63	1.864
Kinesthetic	48	5	10	8.00	1.502
Valid N (listwise)	48				

Based on the results of descriptive statistical analysis of 48 Generation Z student respondents who learned Arabic, the first learning style profile analyzed was visual tendencies. The data shows that visual learning style has an average score of 7.56 with a standard deviation of 1.529. The distribution of scores in this variable ranges from a minimum score of 3 to a maximum value of 10, which indicates that most students have a high level of dependence on visual stimulation, such as the use of texts, charts, and graphic media in understanding Arabic material. This aligns with the reality that Gen Z students possess a significantly higher aptitude for processing information when presented through sophisticated visual hierarchies rather than dense, unstructured text (Sayekti et al., 2021). The relatively low variability of the data suggests a consistency of visual preferences among the learners in this sample.

Meanwhile, the results of the analysis on the auditory learning style dimension showed slightly different characteristics compared to other dimensions. This variable recorded the lowest average score among the three learning styles, which was 6.63. In addition to having the lowest average, auditory learning styles also show the highest level of diversity among students, as reflected in the standard deviation score of 1.864. The range of scores produced is quite wide, starting from a minimum score of 2 to a maximum score of 10. This finding underscores a critical pedagogical crisis where traditional, lecture-heavy Arabic teaching methods—which rely almost exclusively on auditory reception—are increasingly failing to engage a generation that views passive listening as an ineffective cognitive burden (Uluum et al., 2025). This gives an idea that although there are students who rely heavily on hearing in mastering Arabic, there are also groups of students who have very low auditory tendencies, so that pure lecture-based learning methods may not be effective for all students.

The profile of kinesthetic learning style emerged as the most dominant tendency among Generation Z students in this study. This is evidenced by the acquisition of the highest average score of 8.00 with the smallest standard deviation, which is 1.502. This dominance is reinforced by the fact that the minimum score on kinesthetic learning styles is 5, which is the highest lower limit value compared to visual and auditory learning styles. Social facts in modern language acquisition demonstrate that for Gen Z, the brain functions more optimally when linguistic concepts are anchored in physical interaction and immediate practical application (Yasin, 2025). With a maximum score of 10, this data confirms that students tend to be more optimal in learning Arabic when it involves physical activity, direct practice, or active involvement in the learning process. Data obtained from 48 samples listwise ensure that these findings consistently illustrate students' learning preferences that are more inclined towards kinesthetic and visual aspects than auditory aspects.

Based on the descriptive statistical data in Table 1, it can be underlined that the most dominant learning style among Gen Z Arabic learners is the kinesthetic learning style. This dominance is very evident through the acquisition of a mean score of 8.00, which is the highest number when compared to visual learning style of 7.56 and auditory of 6.63. This trend indicates that Gen Z learners are shifting away from being spectators of language toward becoming active participants, where the physical environment itself becomes a critical component of their linguistic memory (Rahmawati et al., 2025). The superiority of this kinesthetic learning style is supported by the fact that the minimum recorded score is 5, a much higher number than the lower limit of visual (3) and auditory (2) learning styles. This indicates that all respondents in this study have kinesthetic tendencies at moderate to high levels, without any students having a low interest in physical practice aspects.

The kinesthetic learning style showed the most stable level of consistency among students, as indicated by the smallest standard deviation value of 1.502. This low standard deviation value gives the impression that the preference for learning through physical activity and direct involvement was homogeneous or even across the study sample. This homogeneity confirms that the learning by doing paradigm is no longer an alternative but a biological necessity for Gen Z to avoid cognitive alienation in the classroom (Hotimah, 2025). With a maximum score of 10, it can be concluded that Gen Z students in the context of learning Arabic rely heavily on practical experience (learning by doing). They tend to be more optimal in absorbing material if the learning process involves simulations, movements, or direct applications in the use of language, rather than just looking at the media or listening to explanations passively (Sanusi et al., 2024).

The average numbers in the previous table do provide an overview, but to see how the distribution of students' abilities or tendencies is more real, we need to dissect them into several categories. The following frequency distribution analysis will show the grouping of the level of student learning style tendencies, ranging from low to high categories, so that we can see where the majority of Generation Z students are in learning Arabic.

### **Visual Learning Profiles**

Based on the frequency distribution on the VisualX1 variable, which measures the level of ease of students in understanding Arabic material through written examples such as text, slides, and whiteboards, a very positive trend was found among respondents. The data shows that the majority of students responded in agreement to the statement, with an accumulative percentage dominating the overall sample. Specifically, 50.00% of respondents stated Agree, which makes it the highest frequency category in this distribution. This dominance was strengthened by the student group who stated Strongly Agree at 31.25%, so that when combined, there were 81.25% of students who explicitly admitted their dependence or comfort on written visual media in the Arabic language learning process.

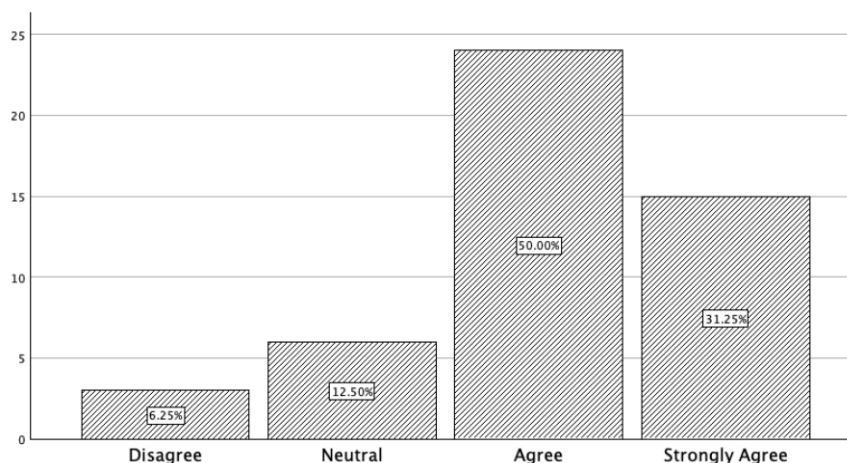


Figure 1. Visual (X1)

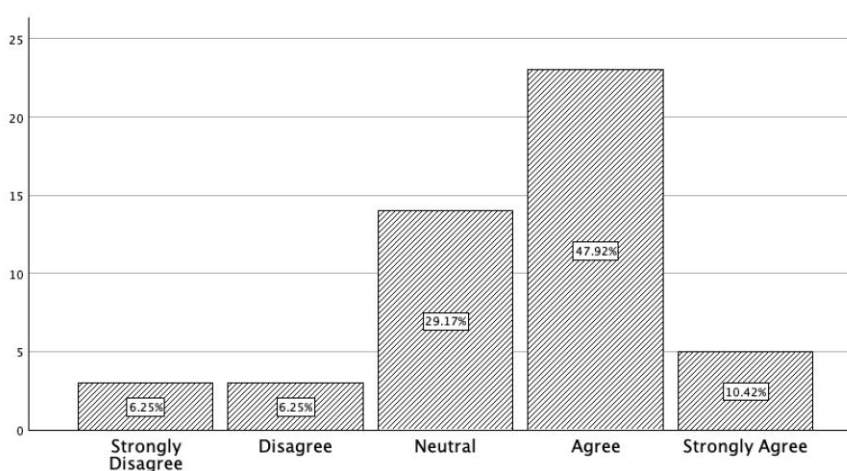


Figure 2. Visual (X2)

The findings on visual learning styles were further deepened through an analysis of the VisualX2 indicator, which specifically measures the extent to which students are helped when Arabic material is presented using tables, colors, or diagrams. The results of the frequency distribution show that the use of these functional graphic elements received a positive response from the majority of respondents. Explicitly, as many as 47.92% of students expressed Agree and 10.42% expressed Strongly Agree. If accumulated, there are 58.34% or more than half of the total students who feel that organizing material through non-text visualization greatly supports their process of understanding Arabic.

The results of descriptive statistical analysis in Table 1 show that visual learning style occupies a very significant position in the Arabic language acquisition process of Generation Z students, with an average score of 7.56 and a standard deviation of 1.529. This figure reflects that visual stimulation is not just a complementary, but a primary cognitive need for respondents in processing complex Arabic language structures, including a root system of morphology that requires clear visual mapping to distinguish word patterns (wazan). When correlated with the results of the analysis of Figures 1 and 2, it can be seen that the majority of students are in the high category, which psychologically indicates that they are more likely to

internalize information when presented in the form of spatial representations, colors, and symbols of organized text.

This trend is in line with the research of Hamid et al. which found that students have a high need for animated infographic modules in learning qawa'id (Arabic grammar) because it improves comprehension and retention compared to conventional methods (Abdul Hamid et al., 2020). This visual reinforcement is crucial in Arabic because it facilitates the decomposition of linguistic complexity without excessive mental fatigue, as supported by similar findings in the interactive infographic study for Arabic grammar.

The high visual preference in Generation Z is relevant to the concept of *visual literacy* discussed by Kurniawati et al., which emphasizes the ability to decode visual sharper in modern learners through interpretation, evaluation, and image creation (Kurniawati et al., 2025). In the context of language learning, Mohamed et al. explain that the integration of visual elements facilitates *generative learning*, in which students establish an active relationship between visual/textual representations and mental concepts (Mohamed, 2021).

Theoretically, these results reinforce the *dual coding theory*, which states optimal memory through verbal and visual channels support each other, as evidenced by Mohamed et al. in EFL vocabulary learning with animation and word definitions that improve comprehension and retention (Mohamed, 2021). This means that although kinesthetic learning styles have a slightly higher average, visuals remain the main cognitive foundation.

### Auditory Learning Profiles

In contrast to the tendency in the visual variable, frequency distribution in this indicator, AuditoryX3 shows a more fragmented and less dominant distribution in the positive category. Data shows that the largest group of respondents is actually in a neutral position, which is 35.42%. This indicates that for most Gen Z students, oral explanations alone are not considered a major factor or significant obstacle to understanding Arabic, but only serve as an optional supporting element.

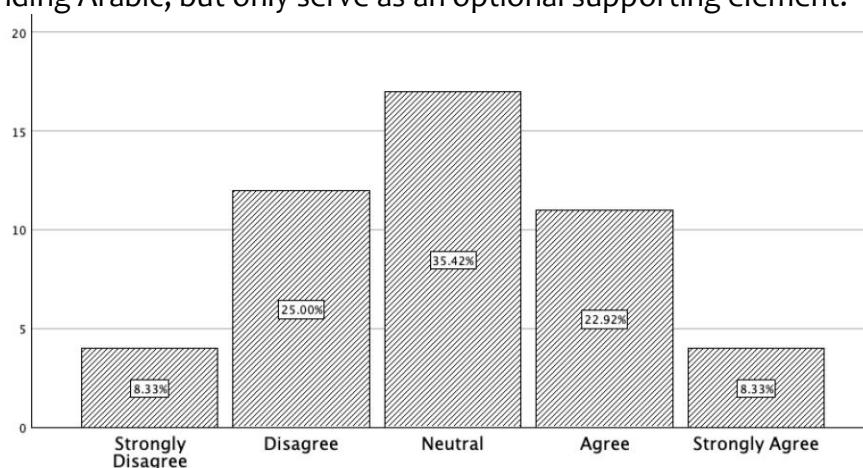
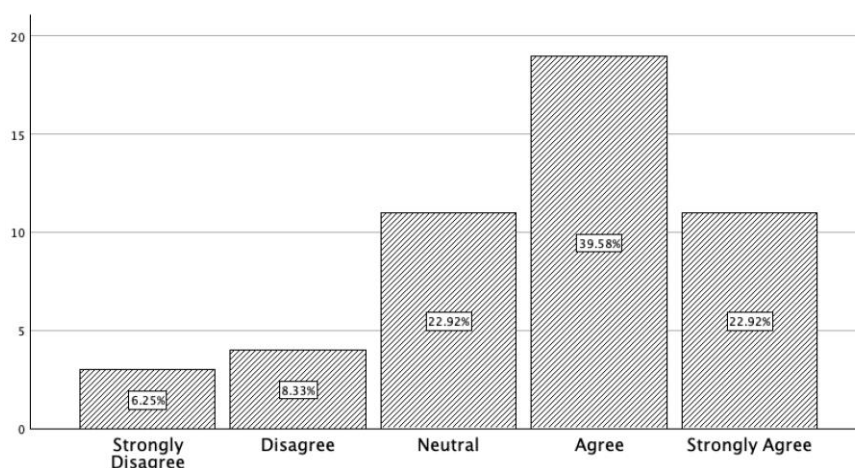


Figure 3. Auditory (X3)





**Figure 4. Auditory (X4)**

Through the AuditoryX4 indicator, it provides additional perspective on the effectiveness of discussion and verbal explanation in learning Arabic for Generation Z students. The data showed that the majority of respondents gave a positive response, with 39.58% of students stating Agree and 22.92% stating Strongly Agree. If accumulated, 62.50% of students felt helped by the verbal discussion method, a much higher number compared to only listening to oral explanations passively.

In contrast to the visual learning style, the results of descriptive statistical analysis on the auditory dimension showed the lowest average score, which was 6.63 with a standard deviation of 1.864, thus occupying the lowest position in the respondents' learning preferences. The wide range of scores from a minimum score of 2 to a maximum of 10 indicates a strong polarization in the way Generation Z students process voice-based information, most of which are in the medium category so that the auditory canal functions more as a support than the main channel in Arabic language acquisition, especially in the aspect of *maharah istima'* (listening skills) (Sujani et al., 2025).

This low auditory average is in line with the finding that the learning ecosystem in the digital era tends to emphasize visual media and text, thus creating a kind of visual bias that shifts learning attention away from pure auditory input (Nurazizah, 2025). Balaban and Camlibel-Acar point out that many second language learners have difficulty maintaining focus on long auditory inputs without the support of strategies or other media, so the effectiveness of listening depends heavily on task design and the use of appropriate listening strategies (Balaban & Camlibel-Acar, 2017). In the context of Arabic, this phenomenon has become increasingly complex because Arabic phonology has makharij al-letter characteristics and letter properties that require high auditory concentration, and various studies of Arabic phonology for non-Arabic speakers show that the differentiation of similar sounds is one of the main sources of difficulty if relying only on oral input.

However, the existence of a maximum score of 10 in some respondents indicates that there is a group of students with strong auditory tendencies who are very responsive to intonation, rhythm, and Arabic prosody patterns. This perspective can be explained through the framework of musical-rhythmic intelligence in Gardner's Multiple Intelligences theory, where individuals with high sensitivity to sound patterns, rhythms, and melodies tend to benefit from intensive

exposure to texts, recitations, and songs in the target language. Correspondingly, various studies on the use of podcasts and audio-podcasts in foreign language learning have reported a positive impact on the development of fluency and listening comprehension when auditory input is presented in a structured and continuous manner, for example in EFL learners (Al Sheef & Althobaiti, 2019).

Comprehensively, this lowest auditory profile provides an important signal for Arabic teachers not to get rid of, but to re-engineer auditory materials to make them more interactive and multimodal. The conceptual article on the importance of listening skills in language learning emphasizes that *listening comprehension* plays a central role in second language acquisition, and its improvement is largely determined by the teacher's assistance through the selection of appropriate materials, activities, and strategic support. The integration of technologies such as audio accompanied by interactive transcripts, *speech-to-text* features, visual markers (highlights, colors, icons), and strategy-based listening tasks (e.g., prediction, monitoring, and self-evaluation) can bridge the gap between what is heard and what is actually understood, while aligning the auditory canal with the dominant visual and kinesthetic tendencies in Generation Z (Damayanti, 2022).

Although statistically auditory learning styles are not the main preference of respondents, their development is still crucial so that the profile of students' Arabic receptive abilities becomes more balanced. The practical implication is that lecturers and teaching material developers need to design *istima'* materials that (1) are rich in authentic sound input, (2) combined with visual support and light physical activity (e.g., taking notes, marking, or performing motion response tasks), and (3) explicitly train listening strategies so that students with low auditory inclination can still be helped, while students with high auditory inclination gain optimal space to actualize its potential (Balaban & Camlibel-Acar, 2017). However, what about kinesthetics?

### **Kinesthetic Learning Profiles**

The analysis on the most dominant dimensions of learning styles ended with a review of the KinestheticX5 indicator, which measures the ease of student understanding through hands-on practice such as exercises, role plays, and active tasks. The results of the frequency distribution in this indicator reflect very high enthusiasm, where the majority of respondents are on the positive answer spectrum. As many as 39.58% of students expressed Strongly Agree and 29.17% expressed Agree. Combined, 68.75% of students unequivocally confirmed that active physical and practical involvement is the main key to their success in understanding Arabic.

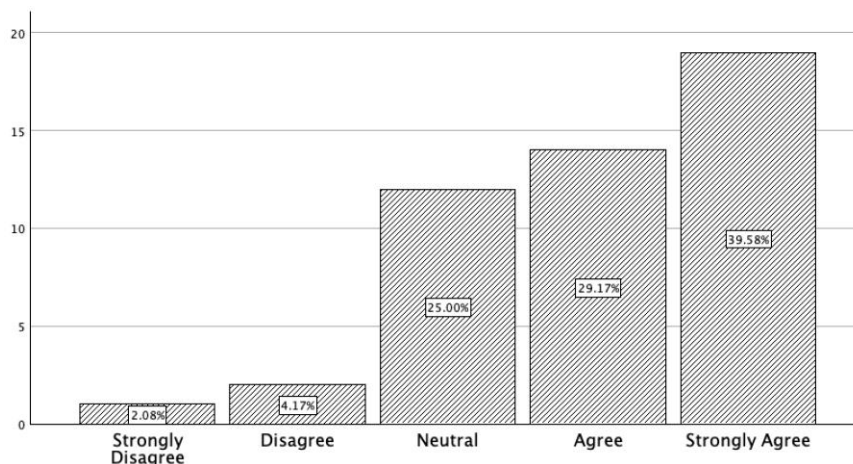


Figure 5. Kinesthetic (X5)

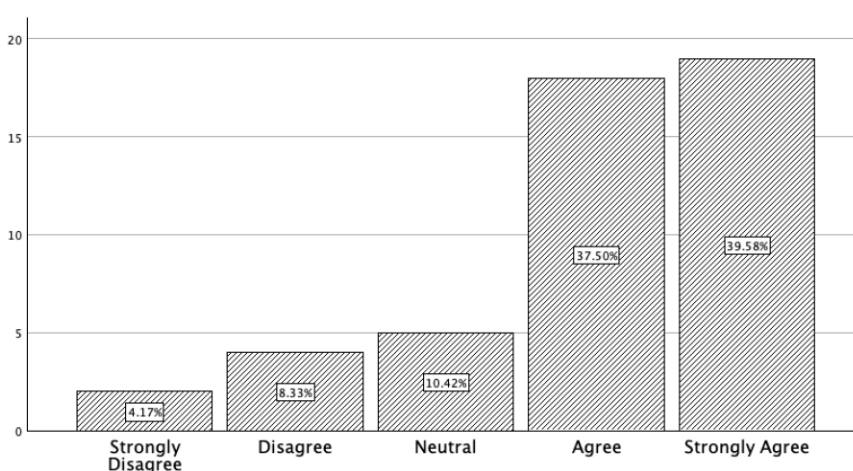


Figure 6. Kinesthetic (X6)

Meanwhile, the analysis of the learning style profile of Generation Z students in learning Arabic was closed with a review of the KinestheticX6 indicator, which measures the level of student saturation if the learning process is only limited to reading or listening activities without accompanying physical activities. The frequency distribution data in this indicator shows that there is a very strong validation of the characteristics of Gen Z that require dynamics in learning. Most of the respondents gave a positive response, where 39.58% of students expressed Strongly Agree and 37.50% expressed Agree. This accumulation of 77.08% confirms that the passive learning method is a significant obstacle that can trigger boredom for the majority of students in this sample.

The results of the descriptive statistical analysis placed kinesthetic learning style as the most dominant profile among Generation Z students, with an average score of 8.00 and a standard deviation of 1.502, as well as a fairly high minimum score of 5. This dominance indicates that respondents have a very strong preference for learning activities that involve physical movements, direct practice, and manipulation of real objects in understanding the rules of the Arabic language. Based on the frequency distribution analysis, the majority of students were concentrated in the high category, which suggests that a static or one-way learning

environment (lectures) is likely to hinder the optimization of their cognitive potential (Pahri, 2021).

The advantages of this kinesthetic learning style are particularly relevant to the theory of *Total Physical Response* (TPR) developed by James Asher, in which coordination between language and body movements has been shown to accelerate the internalization of foreign language instruction (Syihamuddin & Mubin, 2025). Various empirical studies show the effectiveness of TPR in Arabic language learning, such as improving the mastery of mufradat (vocabulary) in elementary school students through fun and interactive physical activities (Ferolisa et al., 2025). This explains why students in this study feel more comfortable doing than just seeing or hearing, especially in conversation simulations (*hiwar*) or role-playing games involving mobility (Pahri, 2021).

This high kinesthetic tendency in Generation Z challenges the long-standing stigma that digital learners are only sedentary. On the other hand, today's students need *experiential learning* to contextualize rigid grammar into functional, with the use of *active learning* methods involving mobility in the classroom proven to increase *emotional and intellectual* engagement (Ramadani S & Baroroh, 2020). These findings are supported by the concept of *embodied cognition*, which states that the human thought process is greatly influenced by physical interaction with the surrounding environment, so that movement activities, simulations, and work-based tasks strengthen vocabulary retention, grammatical comprehension, and fluency in second language learning (Zeeshan et al., 2025).

Based on the convergence of data showing the dominance of kinesthetic ( $M = 8.00$ ) and visual ( $M = 7.56$ ) learning styles, as well as variability in auditory aspects, Arabic learning strategies for Generation Z students must transform towards an integrated multimodality approach. A key recommendation is the application of instructional design that orchestrates various semiotic modes—visual, auditory, gesture, and spatial—in a single dynamic learning ecosystem, as Jewitt emphasizes that multimodality allows for more complete constructs of meaning through inter-modal semiotic interactions (Jewitt, 2016). In the context of Arabic with complex morphological structures such as root systems and wazan, the use of visual media such as qawa'id infographics combined with physical activities (e.g. simulated moving *hiwar*) will lower cognitive load and increase students' emotional engagement (Moreno & Mayer, 2007).

The implementation of this multimodal strategy can be realized through a real product-oriented Project-Based Learning (PjBL) model, where students not only memorize vocabulary auditorily, but produce multimedia content such as short videos in Arabic or digital calligraphy projects that demand visual-kinesthetic coordination. This PjBL approach has been proven effective in developing holistic Arabic literacy (reading, writing, speaking, listening) through collaboration and authentic context, while bridging low auditory preferences with the integration of captioning and clear gestures (Luhulima, 2024). This is in line with the findings of Moreno and Mayer regarding multimodal learning environments, which stated that active involvement in the manipulation of visual and physical elements results in stronger long-term memory retention than monomodal learning, with design principles such as guided activity, reflection, feedback, control, and pretraining (Moreno & Mayer, 2007).

This research provides fundamental pedagogical implications for the teaching of Arabic, demanding the transformation of the classroom into a dynamic laboratory of practice. Students' learning autonomy will increase significantly if they are given space to experiment with language through physical projects, such as calligraphy, short play staging, language games with movement, or the use of certain technologies that allow interaction in an Arabic language simulation environment (Hasanah, 2021). Thus, the synchronization between high visual scores and the dominant kinesthetic scores in this study shows that *blended learning* strategies that combine visual multimedia with direct physical activities are the most effective solutions for Generation Z students today.

#### D. Conclusion

This study confirms that Generation Z students in the Arabic Language Department predominantly favor kinesthetic ( $M=8.00$ ) and visual ( $M=7.56$ ) learning styles over auditory preferences ( $M=6.63$ ), reflecting a cognitive shift among digital natives that undermines traditional lecture-based instruction. These findings highlight the need for pedagogical reform through multimodal strategies, such as interactive infographics, project-based activities, and experiential learning, to better align with students' active-visual orientations and enhance memory retention and linguistic competence in Arabic acquisition. While this research successfully maps these profiles among 48 respondents at Universitas Al-Falah As-Sunniah Jember, limitations include the modest sample size from a single institution and reliance on self-reported data, which may limit generalizability. Future studies should adopt mixed-methods approaches or experimental designs to validate these styles against academic performance across diverse settings.

#### References

- Abdul Hamid, M. F., Ab. Halim, Z., & Sahrir, M. S. (2020). An Insight on Needs Analysis towards the Development of Animated Infographic Module in Arabic Grammar Learning. *Dil ve Dilbilimi Çalışmaları Dergisi*, 16(3), 1387–1401. <https://doi.org/10.17263/jlls.803813>
- Al Sheef, M. M., & Althobaiti, N. S. (2019). The Effect of Audio-Podcast on Listening Comprehension of EFL Saudi Secondary Stage Students: Eastern Province. *مجلة البحث العلمي فى التربية*, 20(15), 378–347. <https://doi.org/10.21608/jsre.2019.88357>
- Balaban, S., & Camlibel-Acar, Z. (2017). Metacognitive Awareness In Second Language Listening And The Role Of Strategy Training. *EPESS*. <https://izlik.org/JA63HL83KH>
- Chan, C. K. Y., & Lee, K. K. W. (2023). The AI Generation Gap: Are Gen Z Students More Interested in Adopting Generative AI Such as ChatGPT in Teaching and Learning than Their Gen X and Millennial Generation Teachers? *Smart Learning Environments*, 10(1), 60. <https://doi.org/10.1186/s40561-023-00269-3>
- Dalle, A., & Afriadi, D. (2025). The Revolution of Arabic Syntax Learning Among Generation Z. *IJAZ ARABI: Journal of Arabic Learning*, 8(2). <https://doi.org/10.18860/ijazarabi.v8i2.32837>
- Damayanti, N. P. A. B. (2022). Optimizing Educational Technology To Improve Students' Listening Comprehension Through Podcast. *ICLCC*. <https://e proceeding.warmadewa.ac.id/index.php/iclcc/article/view/28>

- Ferolisa, A. F., Amrullah, A. M. K., & Kholil, A. (2025). The Effectiveness of the Total Physical Response (TPR) Method on Arabic Vocabulary Comprehension for Students with Special Needs at Hayat Islamic Primary School Malang. *Abjadia : International Journal of Education*, 10(3), 573–584. <https://doi.org/10.18860/abj.v10i3.32970>
- Hasanah, U. (2021). Autonomous Learning As Language Learning Strategy Based On Students Preferred Learning Style. *IDEAS: Journal on English Language Teaching and Learning*, 9(1). <https://doi.org/10.24256/ideas.v1i2.163>
- Hotimah, K. (2025). Melampaui batas kelas: Rahasia belajar bahasa arab gen Z di era digital. *Maliki Interdisciplinary Journal (MIJ)*, 3(June). <https://urj.uin-malang.ac.id/index.php/mij/article/view/17460>
- Jewitt, C. (2016). *The Routledge Handbook of Multimodal Analysis* (2nd ed.). Routledge. <https://books.google.co.id/books?id=-RDCnAEACAAJ&hl>
- Kurniawati, K., Wahyuriningsih, I., & Sotlikova, R. (2025). Development of a Visual Literacy Assessment Instrument for Elementary School Students. *DIDAKTIKA*, 8(1). <https://doi.org/10.21831/didaktika.v8i1.85928>
- Luhulima, Y. A. (2024). Project-Based Learning (PBL) Method in Arabic Language Learning to Develop Students' Literacy Skills. *IJ-ATL (International Journal of Arabic Teaching and Learning)*, 8(2). <https://doi.org/10.33650/ijatl.v8i2.10751>
- Makfiro, N., Fithriyah, A., Nidhomillah, A. R. F., & Mustofa, S. (2024). Eksplorasi Motivasi Belajar Bahasa Arab Menggunakan Video pada Mahasiswa Magister Pendidikan Bahasa Arab. *Borneo Journal of Language and Education*, 4(2). <https://doi.org/10.21093/benjole.v4i2.8594>
- Mohamed, R. A. A. (2021). Dual Coding Theory and Vocabulary Learning: Animation and Word Definition Integration. *AAFU*, 49(6). [10.21608/aafu.2021.330063](https://doi.org/10.21608/aafu.2021.330063)
- Moreno, R., & Mayer, R. (2007). Interactive Multimodal Learning Environments. *Educ Psychol*, 19. <https://doi.org/10.1007/s10648-007-9047-2>
- Nisa, U. K., Hidayat, A. F. S., Qoyim, M. H. A., Suja, A., Tunaimah, S. K., Yulianti, N. P., Firdaus, M. Y. A., & edy r. (2022). Implementasi Metode Qira ' ah Dalam Pembelajaran Bahasa Arab. *Benjole : Borneo Journal of Language and Educationorneo Journal Of*, 2(2), 109–121. <https://doi.org/10.21093/benjole.v2i2.5902>
- Nukman, N., & Hidayat, A. F. S. (2024). Utilization of Network-Based Learning Technology by Millennial Generation Lecturers: A Review of Arabic Language Learning in Higher Education. *Al Mi'yar: Jurnal Ilmiah Pembelajaran Bahasa Arab Dan Kebahasaaraban*, 7(1), 437–458. <http://dx.doi.org/10.35931/am.v7i1.3281>
- Nurazizah, K. (2025). Auditory Learning Style Dependence in the Digital Era: Its Influence on Students' Writing Skills. *Passicola*, 2(1). <https://doi.org/10.46870/passikola.v2i1.1773>
- Pahri, P. (2021). The Implementation of Total Physical Response (TPR) Method in Improving Arabic Speaking Skills. *Tanwir Arabiyyah: Arabic As Foreign Language Journal*, 1(2), 63–72. <https://doi.org/10.31869/aflj.v1i2.2872>

- Qatrunnada, A. F., Agustina, E., & Setiawan, R. (2025). Gen Z's Preference For English Digital Learning Media. *IJoEEL*, 07(02). <https://doi.org/10.33650/ijoeel.v7i2.11901>
- Rahmawati, N. D., Maghfurin, A., & Muthohar, A. (2025). Comparative Study: Millennials' and Gen Z's Perceptions of Using DeepL for Arabic Learning. *Didaktika: Jurnal Kependidikan*, 14(3). <https://doi.org/10.58230/27454312.2235>
- Ramadani S, F., & Baroroh, R. U. (2020). Strategies And Methods Of Learning Arabic Vocabulary/ Strategi Dan Metode Pembelajaran Kosakata Bahasa Arab. *Ijaz Arabi Journal of Arabic Learning*, 3(2). <https://doi.org/10.18860/ijazarabi.v3i2.10062>
- Rokhani, R., Hamdi, I., & Zainurrakhmah, Z. (2022). Problems of Arabic Teaching for Students of The Government Islamic High School Semarang. *Borneo Journal of Language and Education*, 2(2), 186–194. <https://doi.org/10.21093/benjole.v2i2.6141>
- Sanusi, A., Hamid, M. A., & Nurbayan, Y. (2024). Arabic Teachers Pedagogical Competence: Cultural Approach in Enhancing the Students' Communicative Skills. *Arabiyat : Jurnal Pendidikan Bahasa Arab Dan Kebahasaaraban*, 11(1). <https://doi.org/10.15408/a.v11i1.39919>
- Sayekti, A., Habibah, N., & Rahmawati, S. (2021). Learning Style of Indonesian Generation Z in Higher Education. In *Proceedings of the 1st International Conference on Sustainable Management and Innovation, ICoSMI 2020*. <https://doi.org/10.4108/eai.14-9-2020.2304488>
- Sujani, E. A., Putri, T. M., Rahayu, A., & Hamidah, W. (2025). Analisis Gaya Belajar Mahasiswa Gen Z. *Journal Genta Mulia*, 15(2). <https://ejournal.uncm.ac.id/index.php/gm/article/view/1485>
- Syihamuddin, H., & Mubin, K. (2025). Enhancing Arabic Language Learning Outcomes through the Total Physical Response (TPR) Method. *Al Mi'yar: Jurnal Ilmiah Pembelajaran Bahasa Arab Dan Kebahasaaraban*, 10(1). <http://dx.doi.org/10.35931/am.v8i1.4693>
- Uluum, D. C., Musli, & Mustar. (2025). Pendidikan Bahasa Arab untuk Generasi Z: Strategi Adaptasi Pengajaran di Era Digital. *JiIP (Jurnal Ilmiah Ilmu Pendidikan)*, 8(4). <https://doi.org/10.54371/jiip.v8i4.7594>
- Yasin, R. (2025). Dynamics Of Arabic Language Learning In The Gen Z Era: Challenges And Opportunities. *Multidisciplinary Indonesian Center Journal (MICJO)*, 2(3), 3840–3847. <https://doi.org/10.62567/micjo.v2i3.1182>
- Zeeshan, M., Zulfiqar, A., & Zulfiqar, M. (2025). Embodied Cognition in SLA: The Role of Physical Movement and Gestures in Improving Memory and Fluency in Second Language Acquisition. *Research Consortium Archive*, 3(4). <https://doi.org/10.0000/3214>