Arabiyatuna
Jurnal Bahasa Arab

Vol. 10. No. 2, November 2026, 431-454
P-ISSN: 2580-5045, E-ISSN: 2580-5053
DOI: http://dx.doi.org/10.29240/jba.v10i2.15486

Arabic Learning Styles in Public Universities: Convergence and Divergence of Madrasah and General Graduates

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Cite this article:
Wiza, R., Yasmadi, Y., & Rahmawati, R. Arabic Learning Styles in Public Universities: Convergence and Divergence of Madrasah and General Graduates. Arabiyatuna: Jurnal Bahasa Arab, 10(2), 431–454. https://doi.org/10.29240/jba.v10i2.15486

Received: 12-12-2025	Revised: 21-08-2026	Accepted: 07-10-2026

Abstract

This study describes the Arabic learning styles of students enrolled in an Arabic language course at a public university. It examines patterns of convergence and divergence among students from madrasah and general-school backgrounds across four linguistic aspects: phonology, morphology, syntax, and semantics. Using a quantitative descriptive survey design, the study involved 116 second-semester students of the Islamic Religious Education (PAI) Study Program at Universitas Negeri Padang who entered the program in 2024 and were enrolled in the Arabic language course. Because the 116 students constituted the entire population of the target cohort, total population sampling was employed. Participants included 72 students from general schools and 44 from religious schools. Data were collected using a structured, closed-ended questionnaire based on the Visual, Auditory, and Kinesthetic (VAK) learning-style framework. The questionnaire contained 30 items measuring VAK preferences across the four linguistic aspects and students' general preferences in Arabic learning. Data were analyzed descriptively using frequencies and percentages, interpreted with similar patterns as convergence and different patterns as divergence. The findings showed that students did not demonstrate a uniform learning preference across all Arabic linguistic aspects. In phonology, kinesthetics learning was dominant across all groups (47–67%), while visual learning was consistently the least preferred. In morphology, auditory learning was dominant in three of four

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groups, although female religious-school graduates showed a relatively balanced distribution of VAK preferences. In syntax, auditory learning demonstrated the strongest convergence, dominating all groups (44–68%). In semantics, visual and auditory learning were the two strongest preferences, indicating a relatively balanced pattern. Overall, the findings demonstrate both convergence and divergence by educational background, gender, and linguistic aspect. These results highlight the need for flexible, adaptive, and multimodal Arabic instruction that integrates visual, auditory, and kinesthetics activities to accommodate diverse learner profiles in public university contexts.

Keywords: Arabic Language; Convergence; Divergence; Learning Style (VAK)

Introduction

Arabic is included as a subject in several public universities, particularly within study programs that are closely connected to Islamic disciplines, such as Islamic Religious Education (PAI), Islamic history, Arabic philology, and Arabic linguistics. In Indonesia's evolving higher education environment, student populations have become increasingly diverse, especially in their prior educational experiences, with noticeable differences between those who graduated from madrasahs and those from general schools. This diversity creates distinct challenges for the teaching of Arabic in public university contexts.

Students from madrasah backgrounds such as MI, MTs, or MA are typically introduced to Arabic early in stage of their education. Their learning process often prioritizes memorization, a strong focus on grammatical rules (*nahwu* and *sharaf*), and engagement with classical texts (Fikri et al., 2025; Sholehuddin & Wijaya, 2019). As noted by Wahyuni (2021), this type of background supports the development of solid metacognitive skills, although these students may encounter difficulties when adapting to more communicative and practical language use (Sutarjo, 2025).

In contrast, graduates of general schools tend to be more accustomed to communicative and context-based instructional approaches, including speaking-oriented activities and thematic understanding (Ridlo, 2022). Nevertheless, studies indicate that they frequently experience challenges in grasping essential components of Arabic, particularly in the areas of morphology and syntax (Syarifah & Lestari, 2021; Abdul Basir & Rusydi, 2021).

Anjani et al., (2025) reported that learners from Islamic boarding schools tend to show higher motivation to study Arabic than those from general school settings. At the same time, students from general schools are often more inventive in developing their own approaches to learning (NurKholis & Mustofa, 2024).

Within this framework, learning styles play a significant role in shaping how individuals receive, interpret, and store information. Understanding of these variations can contribute to better learning outcomes (Nailur Rahmawati et al., 2024). A learning style refers to an individual's consistent and preferred manner of acquiring and retaining new knowledge and skills. In the context of Arabic language learning, recognizing these preferences is essential, as learners differ in how they engage with material some respond more effectively to visual elements, others to auditory input, while some benefit most from experiential or hands-on activities.

The VAK (Visual, Auditory, Kinesthetic) model, widely discussed since the 2010s (Lin, 2024), suggests that individuals typically lean toward one dominant learning mode. Visual learners rely on images, diagrams, and color cues; auditory learners benefit from listening and verbal explanations (Wahyudi et al., 2023); while kinesthetic learners grasp concepts more effectively through movement and direct practice (Soomro et al., 2023; Mutalibovich, 2025). In Arabic grammar, visual strategies are particularly advantageous, such as the use of concept maps, *wazan* charts, and sentence structures. Recent research further shows that digital visual tools—like interactive infographics and grammar exercises supported by images—can significantly enhance both comprehension and learner engagement, underscoring the value of multimodal visual approaches in understanding complex linguistic concepts (Hamid et al., 2024; Keumalawati & Hossam, 2024; Delassi et al., 2025).

Astuti & Malleleang (2022) reported that a visual approach to learning plays a significant role in enhancing students' comprehension of verb forms and sentence organization (Mahmudah et al., 2024). In contrast, learners with an auditory preference tend to remember vocabulary and pronunciation more effectively when they are repeatedly exposed to spoken input, such as audio recordings, songs, or teacher-led explanations (Nur'ain Novianty et al., 2025). Meanwhile, kinesthetics learners achieve better results through active involvement, including writing exercises, practicing dialogues, role-playing, and independently constructing sentences (Yusvida, 2020).

Further evidence supports these observations, showing that technology-based auditory materials such as video-supported listening activities can improve both listening comprehension and vocabulary retention through continuous exposure and structured review (Chih-Ming Chen & Chen, 2021; Mizan et al., 2024). Additionally, captioned videos combined with advance organizers facilitate incidental learning of vocabulary and collocations by engaging both auditory and visual processing (Teng, 2019). Moreover, mobile-based, task-oriented learning integrated with gamification offers meaningful physical engagement, which in turn strengthens writing ability, boosts motivation, and encourages active language use (Pingmuang & Koraneekij, 2022).

These learning preferences correspond closely with the four fundamental components of Arabic linguistics: phonology, morphology, syntax, and semantics. For example, auditory learners often perform well in pronunciation because they rely on repeated listening, imitation, and interaction with authentic spoken language, which enhance phonological awareness and articulation accuracy. Research also indicates that technology-supported phonetic training and audio-focused practice significantly improve pronunciation and listening discrimination, emphasizing the role of auditory processing in accurate speech production (González & Ferreiro, 2024; Arifah & Budiastuti, 2025). On the other hand, visual learners tend to understand word formation more easily, while kinesthetics learners benefit more from practical sentence-building activities. Therefore, educators must recognize these differences in order to develop teaching strategies that are both effective and inclusive.

Applying a multimodal approach that combines visual, auditory, and kinesthetics components can be an effective strategy for creating an inclusive learning environment. Busiri (2022) also underscores the role of affective techniques such as repetition, elaboration, and self-directed practice in supporting instruction that aligns with individual learner preferences. Recent empirical studies further demonstrate that instructional designs incorporating multiple modes of learning enhance student engagement, improve accessibility, and sustain learning persistence by addressing varied sensory preferences and cognitive processes (Rasheed et al., 2020). These findings integrating of multimodal resources with affective strategies can strengthen learner independence, increase motivation, and promote deeper conceptual understanding in language education.

Differences in educational background between graduates of madrasahs and those from general schools influence not only their initial readiness but also how they prefer to learn. Students from madrasah settings often show a tendency toward visual and kinesthetics modes of learning, shaped by their experience with memorization and exposure to classical Arabic texts. In contrast, graduates of general schools are more inclined toward auditory learning, as they are generally more familiar with spoken instruction and classroom discussion (Jannah & Ahmala, 2021).

The gap becomes particularly relevant in public university contexts, where students from different educational backgrounds learn Arabic within the same academic environment. Although previous research has identified differences between learners with religious and general educational backgrounds, limited attention has been given to how their learning-style preferences converge and diverge when examined across different linguistic aspects of Arabic. In particular, research still needs to examine whether differences in prior educational experience are reflected consistently across phonology, morphology, syntax, and semantics, or whether students from different backgrounds show common learning preferences in specific areas.

This study contributes by examining the convergence and divergence of Visual, Auditory, and Kinesthetic (VAK) learning styles among students from madrasah and general-school backgrounds across four linguistic dimensions of Arabic: phonology, morphology, syntax, and semantics. Rather than treating learning style as a general characteristic of learners, this study relates learning-style preferences to specific components of Arabic and compares the patterns between students from different educational backgrounds. This approach provides a more detailed perspective on the relationship between students' prior educational experiences and their preferred ways of learning different aspects of Arabic. The findings are expected to contribute to the developing more adaptive and inclusive Arabic language instruction in public university contexts.

The Islamic Religious Education (PAI) Study Program at Universitas Negeri Padang provides an appropriate context for examining this issue because Arabic is a compulsory subject within the program. Students entering the program may come from different educational backgrounds, including madrasahs, Islamic boarding schools, and general schools. These backgrounds may provide students with different levels of prior exposure to Arabic and different learning experiences. Such diversity can influence students'

preparedness, learning preferences, and ways of engaging with Arabic instruction. Consequently, understanding the learning-style characteristics of students from different educational backgrounds is important for developing instructional practices that are responsive to heterogeneous learners in public university settings.

Accordingly, this study aims to examine the learning styles of PAI students at Universitas Negeri Padang by focusing on the points of convergence and divergence between students from madrasah and general-school backgrounds across the linguistic dimensions of phonology, morphology, syntax, and semantics. By identifying differences and commonalities in VAK learning preferences, this study seeks to provide an empirical basis for developing more inclusive and adaptive approaches to Arabic language instruction that accommodate diverse learner backgrounds while optimizing students' potential for acquiring Arabic.

Method

This study employed a quantitative descriptive survey design to identify and compare the Arabic learning styles of students from different educational backgrounds (Sugiyono, 2017). The study focused on the convergence and divergence of Visual, Auditory, and Kinesthetic (VAK) (Fleming & Mills, 1992) learning preferences among students who graduated from madrasahs or other religious schools and those from general schools. The analysis considered four linguistic aspects of Arabic learning: phonology, morphology, syntax, and semantics. Convergence refers to similarities in learning-style patterns between the groups, while divergence refers to differences in those patterns (John W. Creswell & Creswell, 2018).

The population consisted of 116 students from the 2024 cohort of the Islamic Religious Education (PAI) Study Program at Universitas Negeri Padang who were enrolled in the Arabic language course. Because the population was relatively small and all members were accessible, the study used a total sampling technique, involving all 116 students as research participants. The participants were subsequently classified into two groups based on their educational background: madrasah/religious-school graduates and general-school graduates.

Data were collected using a structured, closed-ended questionnaire administered through Google Forms (Arikunto, 2013; Dörnyei, 2007). The questionnaire consisted of 30 items, with three response options representing

Visual, Auditory, and Kinesthetic learning preferences. Items 1–20 were organized into four linguistic aspects, with five items each: phonology (1–5), morphology (6–10), syntax (11–15), and semantics (16–20). Items 21–30 assessed students' general VAK preferences in Arabic learning, including vocabulary learning, reading, sentence construction, *nahwu-sharaf*, reviewing lessons, and preferred learning methods.

Before administration, the questionnaire underwent a limited pilot test to examine its validity and reliability and was considered appropriate for the study. The data collection procedure involved distributing the questionnaire to all 116 participants through Google Forms and recording their selected responses. Since all questionnaire items were closed-ended and generated numerical data, the study did not collect qualitative data such as interviews or open-ended responses.

The data were analyzed using quantitative descriptive statistics, including frequency counts and percentages. Responses were classified into Visual, Auditory, and Kinesthetic categories and analyzed by the four linguistic aspects and the general learning-style items. The distributions were then compared between madrasah/religious-school and general-school graduates. Similar patterns were interpreted as convergence, while different patterns were interpreted as divergence. This analysis descriptive, comparative analysis aimed empirically describes of students' Arabic learning-style diversity rather than establish causal relationships.

Findings and Discussion

1. Students' Educational Background and Overall Arabic Learning Styles

Students in this study came from diverse educational backgrounds before entering the Islamic Religious Education (PAI) Study Program at Universitas Negeri Padang. Their previous educational experiences were identified to provide a contextual picture of the participants before examining differences and similarities in their Arabic learning styles. Figure 1 shows the distribution of participants according to their previous educational level.

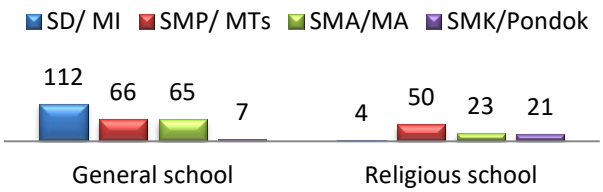


Figure 1. Distribution of Students by Previous Educational Level

Figure 1 shows that students with a general-school background were distributed across four educational categories: SD/MI (112), SMP/MTs (66), SMA/MA (65), and SMK/Pondok (7). Meanwhile, students with a religious-school background were represented by SD/MI (4), SMP/MTs (50), SMA/MA (23), and SMK/Pondok (21). The distribution indicates that the educational trajectories of the two groups were not identical. The general-school group shows a higher representation in the SD/MI category, whereas the religious-school group is more represented in the SMP/MTs and SMK/Pondok categories. These differences illustrate the varied educational experiences of students before entering university.

The composition of the participants is further detailed in Table 1, which classifies students according to their last educational background and gender.

No	Last Educational Background	Male (M)	Female (F)	Total
1	General School	19	53	72
2	Religious School	8	36	44
	Total	**27**	**89**	**116**

Table 1. Distribution of Participants by Educational Background and Gender

As shown in Table 1, the study involved 116 students, consisting of 72 students from general schools (62.1%) and 44 students from religious schools (37.9%). The general-school group comprised 19 male and 53 female students, whereas the religious-school group consisted of 8 male and 36 female students. Overall, female students constituted the larger proportion of the sample, with 89 students compared with 27 male students. This distribution provides the demographic and educational context for the subsequent analysis of VAK learning-style preferences.

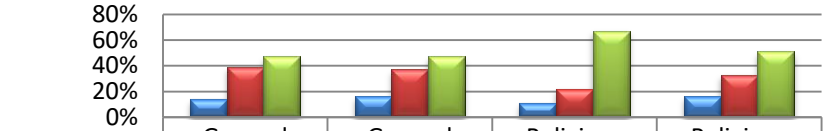
The differences in students' educational backgrounds do not in themselves indicate differences in learning styles. Rather, these categories serve

as the basis for examining whether students from general and religious schools demonstrate convergence or divergence in Visual, Auditory, and Kinesthetic learning preferences. The following sections therefore examine these patterns across the four Arabic linguistic aspects: phonology, morphology, syntax, and semantics.

2. Convergence and Divergence of VAK Learning Styles Across Arabic Linguistic Aspects

2.1 VAK Learning Styles in Arabic Phonology: Convergence and Divergence

Arabic phonology involves learners' ability to perceive and produce Arabic sounds accurately, including pronunciation, *makhraj*, sound discrimination, and intonation. Because these activities involve different modes of learning, students may demonstrate different preferences for visual, auditory, or kinesthetics engagement. Therefore, the distribution of VAK learning styles in Arabic phonology was examined across students from general and religious school backgrounds, with gender considered as an additional descriptive category. The results are presented in Figure 2.



	General School (M)	General School (F)	Religious School (M)	Religious School (F)
Visual	14%	16%	11%	16%
Auditory	39%	37%	22%	33%
Kinesthetic	47%	47%	67%	51%

Figure 2. VAK Learning Styles in Arabic Phonology by Educational Background and Gender

Figure 2 shows the distribution of Visual, Auditory, and Kinesthetic learning preferences across four groups. Among male general-school graduates, the Visual preference is 14%, Auditory 39%, and Kinesthetic 47%. Among female general-school graduates, the corresponding proportions are 16%, 37%, and 47%. For male religious-school graduates, Visual accounts for 11%, Auditory 22%, and Kinesthetic 67%. Meanwhile, among female religious-school graduates, Visual represents 16%, Auditory 33%, and Kinesthetic 51%. Thus,

kinesthetic learning has the highest proportion in all four groups, whereas visual learning has the lowest proportion.

The figure also indicates that the kinesthetic preference is particularly pronounced among religious-school graduates, especially males, reaching 67%. Among general-school graduates, kinesthetic learning is relatively stable at 47% for both males and females. Auditory learning shows greater variation, ranging from 22% among male religious-school graduates to 39% among male general-school graduates. Visual learning displays the smallest variation, ranging from 11% to 16% across the four groups.

Convergence and Divergence

The findings demonstrate convergence in the dominance of the Kinesthetics learning style across all four groups. Kinesthetics preference is the highest among male and female general-school graduates (47% each) and among male and female religious-school graduates (67% and 51%, respectively). This indicates a common tendency among students to prefer learning activities involving direct practice, active participation, and physical engagement in Arabic phonology. Visual learning also shows relative convergence, as its proportion remains within a narrow range of 11%–16% across the four groups, making it the least dominant preference in all groups.

At the same time, the findings indicate divergence in the magnitude of kinesthetics and auditory preferences across educational backgrounds. The most notable difference occurs among male students, where the kinesthetics preference rises from 47% among general-school graduates to 67% among religious-school graduates, while the auditory preference decreases from 39% to 22%. Among female students, the difference is smaller, with kinesthetics preference increasing from 47% to 51% and auditory preference decreasing from 37% to 33%. Thus, although both groups converge on kinesthetics learning as the dominant preference, they diverge in the strength of their kinesthetics and auditory orientations, particularly among male students.

2.2 VAK Learning Styles in Arabic Morphology: Convergence and Divergence

Arabic morphology requires students to understand changes in word forms*, wazan, tashrif,* and patterns of singular, dual, plural, and verb forms. These learning activities may involve different sensory preferences, particularly in recognizing and practicing changes in Arabic word forms. Therefore, this

section examines the distribution of Visual, Auditory, and Kinesthetics learning preferences in Arabic morphology among students from general and religious school backgrounds, with gender considered as a descriptive category. The results are presented in Figure 3.



	General School (M)	General School (F)	Religious School (M)	Religious School (F)
Visual	22%	33%	28%	33%
Auditory	58%	43%	47%	33%
Kinesthetic	20%	24%	25%	34%

Figure 3. VAK Learning Styles in Arabic Morphology by Educational Background and Gender

Figure 3 shows that the Auditory learning style is the dominant preference among male and female general-school graduates and male religious-school graduates. Among male general-school graduates, the Auditory preference reaches 58%, followed by Visual at 22% and Kinesthetic at 20%. Among female general-school graduates, Auditory accounts for 43%, while Visual and Kinesthetic account for 33% and 24%, respectively. Among male religious-school graduates, the auditory preference is 47%, followed by Visual at 28% and Kinesthetic at 25%. In contrast, female religious-school graduates show a relatively balanced distribution, with 34% Kinesthetic, 33% Visual, and 33% Auditory.

The figure therefore indicates that the Auditory preference varies across the four groups. The highest proportion is found among male general-school graduates (58%), while the lowest is among female religious-school graduates (33%). Visual preference ranges from 22% to 33%, with the highest proportion among female general-school and female religious-school graduates. Kinesthetic preference ranges from 20% to 34%, with the highest proportion among female religious-school graduates. These results show that the distribution of VAK preferences in Arabic morphology is more varied than the pattern observed in Arabic phonology.

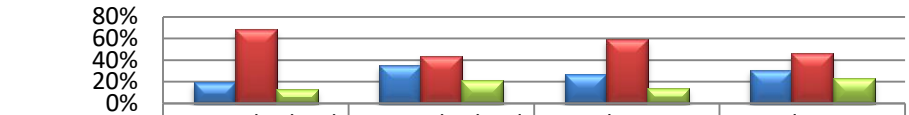
Convergence and Divergence

The findings demonstrate convergence in the relatively strong Auditory preference, particularly among male students from both educational backgrounds, with 58% among general-school graduates and 47% among religious-school graduates. This suggests a shared tendency to rely on auditory engagement when learning Arabic morphology, such as listening to explanations, word-form patterns, and examples of morphological changes. A degree of convergence is also visible among female students, although their VAK distribution is more balanced, particularly among religious-school graduates.

At the same time, the findings reveal divergence in the strength and ranking of the three learning preferences. The most notable difference occurs between male general-school and female religious-school graduates: the former shows a strong auditory dominance at 58%, whereas the latter presents a nearly balanced distribution of 34% Kinesthetics, 33% Visual, and 33% Auditory. Kinesthetics preference also varies from 20% among male general-school graduates to 34% among female religious-school graduates. Thus, while auditory learning shows convergence as an important preference, the overall distribution of VAK styles diverges across educational-background and gender groups, particularly in the balance between auditory, visual, and kinesthetics preferences.

2.3 VAK Learning Styles in Arabic Syntax: Convergence and Divergence

Arabic syntax requires students to understand sentence structures, grammatical functions, *i'rab*, and the relationships among words within Arabic sentences. These aspects may involve different learning preferences, particularly when students are required to understand grammatical explanations, observe sentence patterns, and apply grammatical rules in constructing sentences. Therefore, this section examines the distribution of Visual, Auditory, and Kinesthetic learning preferences in Arabic syntax among students from general and religious school backgrounds, with gender included as a descriptive category. The results are presented in Figure 4.



	General School (M)	General School (F)	Religious School (M)	Religious School (F)
Visual	19%	35%	27%	31%
Auditory	68%	44%	59%	46%
Kinesthetic	13%	21%	14%	23%

Figure 4. VAK Learning Styles in Arabic Syntax by Educational Background and Gender

Figure 4 shows that the Auditory learning style is the dominant preference across all four groups. Among male general-school graduates, Auditory learning accounts for 68%, followed by Visual at 19% and Kinesthetics at 13%. Among female general-school graduates, the proportions are 44% Auditory, 35% Visual, and 21% Kinesthetics. For male religious-school graduates, Auditory represents 59%, followed by Visual at 27% and Kinesthetics at 14%. Meanwhile, female religious-school graduates show 46% Auditory, 31% Visual, and 23% Kinesthetics. Thus, auditory learning has the highest proportion in each group, while kinesthetics learning consistently represents the smallest or second-smallest proportion.

The distribution also shows differences in the magnitude of each learning preference. The Auditory preference ranges from 44% to 68%, with the highest percentage among male general-school graduates and the lowest among female general-school graduates. Visual preference ranges from 19% to 35%, while Kinesthetics preference ranges from 13% to 23%. Female students in both educational-background groups show relatively higher Visual and Kinesthetics proportions than their male counterparts, whereas male students show a stronger Auditory preference. These results indicate that although the same dominant learning style appears across the groups, the relative distribution of the three VAK preferences varies.

Convergence and Divergence

The findings demonstrate convergence in the dominance of the Auditory learning style across all four groups. Auditory preference is the highest category among male and female students from both general and religious schools, ranging from 44% to 68%. This common pattern indicates that

auditory learning is consistently prominent in Arabic syntax across the groups. The convergence is particularly evident in the ranking of the dominant preference, as all four groups place Auditory learning above Visual and Kinesthetics learning.

At the same time, the findings reveal divergence in the strength of the VAK preferences across educational-background and gender groups. The most notable difference occurs between male general-school graduates, who show the highest auditory preference (68%), and female general-school graduates, whose auditory preference is lower (44%) but whose Visual preference is relatively higher (35%). A similar pattern can be observed among religious-school graduates, with auditory preference at 59% for males and 46% for females. Kinesthetics preference also varies, from 13% among male general-school graduates to 23% among female religious-school graduates. Thus, the groups converge in their dominant auditory preference but diverge in the intensity and distribution of Visual, Auditory, and Kinesthetics preferences.

2.4 VAK Learning Styles in Arabic Semantics: Convergence and Divergence

Arabic semantics involves students' ability to understand and interpret meaning, including vocabulary, synonyms and antonyms, idiomatic expressions, cultural expressions, and Arabic-derived words. These learning activities require students to connect Arabic forms with their meanings and contexts. Therefore, this section examines the distribution of Visual, Auditory, and Kinesthetics learning preferences in Arabic semantics among students from general and religious school backgrounds, with gender considered as a descriptive category. The results are presented in Figure 5.



	General School (M)	General School (F)	Religious School (M)	Religious School (F)
Visual	33%	36%	35%	36%
Auditory	50%	42%	43%	38%
Kinesthetic	17%	22%	22%	26%

Figure 5. VAK Learning Styles in Arabic Semantics by Educational Background and Gender

Figure 5 shows that the Auditory learning style is the dominant preference across all four groups. Among male general-school graduates, Auditory learning accounts for 50%, followed by Visual at 33% and Kinesthetics at 17%. Among female general-school graduates, the proportions are 42% Auditory, 36% Visual, and 22% Kinesthetics. For male religious-school graduates, Auditory represents 43%, followed by Visual at 35% and Kinesthetics at 22%. Meanwhile, female religious-school graduates show 38% Auditory, 36% Visual, and 26% Kinesthetics. Thus, Auditory learning has the highest proportion in all four groups, while Kinesthetics learning has the lowest proportion.

The figure also shows that the Visual preference is relatively stable across the groups, ranging from 33% to 36%. The highest Visual proportion is found among female students from both general and religious schools, at 36%, while male general-school and religious-school graduates show 33% and 35%, respectively. The Kinesthetics preference ranges from 17% to 26%, with the highest proportion among female religious-school graduates. Overall, the distribution indicates that the three VAK preferences are relatively closer among female students, particularly female religious-school graduates, compared with the stronger auditory dominance observed among male students.

Convergence and Divergence

The findings demonstrate convergence in the dominance of the Auditory learning style across all four groups. Auditory preference remains the highest category among male and female students from both general and religious schools, ranging from 38% to 50%. This indicates a common tendency to favor auditory engagement in understanding Arabic meaning, such as listening to explanations, hearing vocabulary in context, and processing verbal information. The Visual preference also shows considerable convergence, remaining within a relatively narrow range of 33%–36% across the four groups.

At the same time, the findings reveal divergence in the strength of the Auditory and Kinesthetic preferences, particularly when comparing male and female students. Male general-school graduates show the highest Auditory preference (50%) and the lowest Kinesthetic preference (17%), whereas female religious-school graduates show a lower Auditory preference (38%) and the highest Kinesthetic preference (26%). The female groups also demonstrate a relatively more balanced distribution among the three learning styles. Thus, while the groups converge in their dominant Auditory preference, they diverge

in the intensity of Auditory and Kinesthetic orientations, with female students tending toward a more balanced VAK distribution.

3. Overall Patterns and Implications for Arabic Language Instruction

The findings across the four linguistic aspects phonology, morphology, syntax, and semantics reveal both convergence and divergence in students' Visual, Auditory, and Kinesthetic (VAK) learning-style preferences. The patterns indicate that students do not demonstrate one uniform learning preference across all areas of Arabic learning. Instead, the relative strength of each learning style varies according to the linguistic aspect, educational background, and gender. Nevertheless, several common tendencies can be identified, particularly the recurring prominence of auditory and visual learning preferences, while kinesthetics preferences show greater variation across groups. These findings provide an important basis for understanding learner diversity in Arabic instruction at the university level.

Linguistic Aspect	Divergence	Convergence
Phonology	Male religious-school graduates show a higher kinesthetics preference (67%) than male general-school graduates (47%). Auditory preference also varies substantially, from 22% among male religious-school graduates to 39% among male general-school graduates.	Kinesthetics learning is the dominant preference across all four groups, ranging from 47% to 67%. Visual learning is consistently the least preferred, ranging from 11% to 16%.
Morphology	Male general-school graduates show a strong auditory preference (58%), whereas female religious-school graduates show a nearly balanced distribution of Visual (33%), Auditory (33%), and Kinesthetics (34%) preferences.	Auditory learning is dominant in three of the four groups, while visual and kinesthetics preferences remain substantial across the groups.
Syntax	Auditory preference ranges from 44% among female general-school graduates to 68% among male general-school graduates. Kinesthetics preference also varies from 13% to 23%.	Auditory learning is the dominant preference in all four groups, ranging from 44% to 68%.

Semantics	Auditory preference ranges from 38% among female religious-school graduates to 48% among male general-school graduates. Kinesthetics preference ranges from 17% to 25%.	Visual and auditory learning are consistently the two strongest preferences, with visual scores ranging from 32% to 40% and auditory scores from 38% to 48%.

Table 2. Convergence and Divergence of Learning Styles Across Arabic Linguistic Aspects

Overall Patterns

Table 2 shows that students' VAK learning-style preferences vary across the four Arabic linguistic aspects, although several common patterns emerge. In phonology, kinesthetics learning is dominant across all four groups (47–67%), while visual learning is the least preferred. In morphology, auditory learning is dominant in three groups, whereas female religious-school graduates show a relatively balanced distribution of visual (33%), auditory (33%), and kinesthetics (34%) preferences. In syntax, auditory learning is dominant across all groups (44–68%), indicating the strongest convergence. In semantics, visual and auditory learning are the two strongest preferences, producing a more balanced pattern than phonology and syntax.

The findings also indicate divergence in the intensity of preferences across gender and educational-background groups. The clearest difference appears in phonology, where male religious-school graduates show a 67% kinesthetics preference compared with 47% among male general-school graduates. In morphology, male general-school graduates show a strong auditory preference (58%), while female religious-school graduates demonstrate an almost equal distribution across the three learning styles. These findings suggest that learning preferences are better understood as flexible dimensions of learner diversity rather than fixed categories. This interpretation is consistent with Jannah & Ahmala (2021); Endelibu Goa Yotta, (2023), and Lestari and Djuhan (2021), who emphasize the importance of recognizing and accommodating differences in learning preferences in language instruction.

Implications for Arabic Language Instruction

The findings suggest that Arabic instruction should be linguistically differentiated and multimodal rather than based on a single instructional approach. In phonology, the dominance of kinesthetic learning supports the use

of pronunciation activities involving repetition, articulation, movement, and active production, combined with auditory exposure (Mahmudah, 2025; Toyama & Hori, 2025). In morphology, strong auditory preferences in three groups suggest the value of oral explanation, repetition, and verbal practice of *wazan* and *tashrif*, while games and digital platforms can provide visual and interactive engagement for learners with different preferences (Jasni & Ismail, 2024; Hidayat et al., 2024).

In syntax, the dominance of auditory learning supports teacher explanation, discussion, and oral grammatical analysis. However, the variation in auditory preference (44–68%) indicates the need to complement auditory activities with visual sentence structures and practical sentence-building tasks (Al-Jarf, 2024) In semantics, the strong visual and auditory preferences suggest combining oral explanation, contextual examples, semantic mapping, and interactive vocabulary activities (Zulfida et al., 2024).

Overall, instructors should adopt a flexible multimodal approach rather than assigning students permanently to a single VAK category. The convergence of preferences across groups can guide the selection of dominant instructional modes, while the divergence in their intensity highlights the need for flexibility. Thus, phonology may emphasize active practice, morphology may combine auditory and interactive activities, syntax may integrate auditory explanation with visual and practical analysis, and semantics may emphasize visual and auditory representations of meaning. This approach is also compatible with the concept of instructional convergence discussed by Saefuloh and Aflisia, in which different instructional orientations can be combined according to learners' needs and learning levels.

Conclusion

This study concludes that Arabic learning styles among PAI students at Universitas Negeri Padang demonstrate both convergence and divergence across educational backgrounds and Arabic linguistic aspects. The findings show that kinesthetic learning is dominant in phonology, auditory learning is generally dominant in morphology and consistently dominant in syntax, while visual and auditory learning is the two strongest preferences in semantics. At the same time, differences in the intensity of VAK preferences are evident between students from general and religious school backgrounds, particularly in phonology and morphology. These findings indicate that students do not

demonstrate a single uniform learning-style pattern across all components of Arabic, but rather show different preferences according to the linguistic aspect being learned.

These findings have implications for Arabic language instruction at the university level. Arabic instruction should therefore adopt a flexible and multimodal approach that integrates visual, auditory, and kinesthetic activities according to the characteristics of the linguistic material and students' learning preferences. Pronunciation learning may emphasize active and kinesthetic practice, morphology and syntax may combine auditory explanation with visual and practical activities, while semantic learning may integrate auditory explanation and visual representation. Thus, the convergence and divergence identified in this study can serve as an empirical basis for developing more adaptive, inclusive and learner-responsive Arabic instruction without treating VAK learning styles as fixed categories.

Acknowledgment

The author would like to thank Universitas Negeri Padang, especially the Islamic Religious Education (PAI) Study Program, for providing the academic environment and support that made this research possible. The author is also thankful to the second-semester PAI students from the 2024 cohort who took part in this study and provided the data needed for the research. The author also appreciates everyone who contributed to the research process, particularly those who helped with data collection and the preparation of this article. Their assistance, cooperation, and encouragement were valuable in completing this research.

Author Contributions Statement

RW contributed to the conceptualization and design of the study, data collection, data analysis, interpretation of the results, and preparation of the manuscript. YM and RM contributed to supervising the research process, validating the research instruments and data analysis, providing guidance on the interpretation of the findings, and critically reviewing the manuscript. All authors reviewed and approved the final version of the manuscript.

AI Writing Statement

During the preparation of this manuscript, the authors used ChatGPT to assist with language editing and grammar checking. The authors carefully

reviewed and edited the content generated with the assistance of AI and take full responsibility for the final content of this manuscript.

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