The Relationship between Learning Styles and Foreign Language Learning: A Mixed-Method Investigation

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Abstract. This study fills the gap of research on the correlation of learning styles and success of language learning in the environments of foreign learners of a higher level. The findings of this study are based on a VARK-based questionnaire and the semi-structured interviews conducted on a sample of 80 students to measure the influence of various learning styles (visual, auditory, reading/writing and kinesthetic) on language learning preferences, learning behaviors and learning achievements through a mixed-methods approach. The findings indicate that all three styles supported learners in reaching language acquisition, but auditory and kinesthetic learners outperformed others when faced with interactive tasks, and visual and reading/writing learners fared better on grammatical and vocabulary tasks. The findings offer new directions for pedagogical practice by identifying language learning styles appropriate for foreign language classes.

Keywords: Learning styles, Foreign language learning, VARK, Language acquisition, Individual differences, Mixed-methods, Language proficiency, Student preferences.

1. Introduction

The globalization era has made learning a foreign language an essential skill in academic, workplace, and social life. However, the extent to which learners can acquire a second language differs greatly depending on a variety of factors. One of these, for example, is learning style, which refers to a person's preferred method for learning and digesting information [1].From the perspective of language education, this implies that information on the relationship of learning styles with language learning could assist educators in developing more efficient teaching techniques in accordance with their students' specifications. Then it is important to investigate the effect of learning styles on students' experiences and success in foreign language learning. The study is made using a mixed-method approach (i.e., a VARK-based questionnaire and semi-structured interviews), which investigates the preferences, strategies and challenges experienced by the students when learning foreign languages.

2. Literature Review

Learning styles theories have gained notable attention in educational research, particularly concerning language acquisition. The VARK model recommends learners favor distinct methods of interacting with information, influencing their strategic approaches and outcomes.

Previous investigations emphasized individual variances' role in learning languages [2]. For instance, visual learners allegedly excel at tasks involving visual stimuli like reading, viewing videos, and using diagrams. Conversely, auditory learners presumably benefit more from listening-based activities such as lectures, podcasts, and discussions. Kinesthetic learners who prefer hands-on learning frequently perform better in task-based or communicative language activities where physical engagement is involved [3].

Prior studies used both qualitative and quantitative methods investigating learning styles [4]. This study employs a combination of a VARK-based questionnaire and interviews to capture both broad patterns and personal learning experiences.

3. Research Questions

This multifaceted investigation aims to answer the following pivotal questions:

- What are the dominant approaches to acquiring knowledge among university students learning foreign languages?
- How do these styles link to pupils' linguistic learning preferences and competency?
- How do learners view the impact of their styles on outcomes involving new languages?

4. Methodology

The investigation involved eighty undergraduates aged eighteen to twenty-two who were enrolled in foreign language programs at a university in China, where they aimed to gain proficiency in English, Japanese, or French as a second language. Of these eighty participants, twenty students with a variety of VARK preferences for receiving information were subsequently selected for in-depth discussions. Several methods were employed in the study. The researchers administered the Version 8.01 VARK Questionnaire online over two weeks to pinpoint how the eighty university students learning languages preferred to learn based on visual, aural, reading, and kinesthetic approaches [5].

The questionnaire was completed electronically to gather responses from the eighty undergraduates studying foreign tongues at their institute. To gain further insight, interviews were conducted with twenty participants chosen after initial data collection. The quantitative data from the questionnaires was analyzed using SPSS software to determine the prevalence of distinct learning styles and any connections with specific second language acquisition behaviors. A thematic review of the qualitative interviews' contents identified recurring topics linked to how students approached learning and viewed their own proclivities.

5. Results

5.1. Distribution of Learning Styles

Analysis of the VARK questionnaire responses revealed diversity in the distribution of learning styles among the 80 students. This variance mirrors the intricate nature of cognitive and emotional differences between foreign language learners. Among participants, 25 students (31%) favored an auditory approach, 22 (27%) kinesthetic, 19 (24%) visual, and 14 (18%) reading/writing. This distribution suggests auditory and kinesthetic preferences were more widespread in the sample, while reading/writing and visual styles were comparatively less common as shown in Table 1.

Table 1. Distributions of learning styles

Learning Style	Number of Students	Percentage
Auditory	25	31%
Kinesthetic	22	27%
Visual	19	24%
Reading/Writing	14	18%

This distribution aligns with findings from multiple previous examinations, especially those conducted in Asian educational systems. Where repetitive memorization and lecture-centered instruction dominate classroom practices, students may develop auditory and experiential habits as adaptive studying techniques. For example, auditory learners could emerge from repeated exposure to verbal instructions, listening comprehension tests, and teacher-centered lectures. Meanwhile, kinesthetic learners may be reacting to modern pedagogical innovations integrating experiential and task-based language learning—methods gaining notoriety in university-level language programs across East Asia in recent years.

The comparatively lesser percentage of reading/writing learners could mirror a shift in pedagogical focus. Conventionally, language instruction in China and numerous other nations positioned a strong

emphasis on grammar-translation methods and extensive reading tasks. However, with the global stress on communicative competence and real-world application of foreign languages, many learners are being encouraged to engage in more interactive and performance-based activities, potentially decreasing the dominance of reading/writing as a preferred learning style.

Additionally, it is worth noting that several participants displayed multimodal tendencies in their questionnaire responses. While the dominant style for categorization was decided based on the highest VARK score, a significant number of students had high scores in over one class, supporting the argument that many learners are "bimodal" or even "trimodal," and that strict classification into a single class may oversimplify the complexity of cognitive diversity in language learning [6].

Furthermore, an exploratory analysis was conducted to examine gender distribution within each learning style. While the sample was not balanced in terms of gender, the results of the survey indicated that a higher proportion of female students identified as visual and reading/writing learners. Comparatively, auditory and kinesthetic styles were more commonly preferred among male participants. This observation, though limited by the sample size, aligns with past research who documented gender-related variances in how students choose to acquire knowledge [7]. Females have displayed an inclination towards structured and reflective approaches while males have demonstrated a proclivity for physical and aural involvement in the learning process.

Another aspect worth considering is academic discipline. Participants originated from diverse fields such as English Language Education, Japanese Studies, Business English, and International Communication. Initial observations suggest students majoring in English pedagogy and translation expressed a stronger propensity for reading/writing and visual styles, presumably owing to frequent exposure to theoretical concepts, linguistic analysis, and written translation in their coursework. In contrast, those studying International Communication, with its emphasis on speech, public presentations, and cross-cultural simulations, leaned more towards auditory and kinesthetic preferences.

Furthermore, the distribution of learning styles did not appear to strongly correlate with the academic year of the students, from first to fourth year. Preferences seemed to remain fairly consistent across year groups, implying that learning style maturation may occur earlier in one's educational path and persist during undergraduate education, barring major alterations to instruction or environment.

While analyzing the assembly of knowledge procurement approaches amid the patrons rendered a well-balanced cerebral multiplicity. Notwithstanding the auditory and tactile learners formed the bulkiest groups, the attendance of all four designs in meaningful proportions underscores the necessity for inclusive and diversified pedagogical tactics.

5.2. Correlation with Language Performance

Data gathered from the language learning survey and VARK questionnaire was used to calculate Pearson correlation coefficients, determining how learning style preferences aligned with self-reported competency levels.

The findings, summarized briefly in Table 2 below, uncovered unique patterns between certain learning styles and definite language areas. Some students with visual strengths performed better in reading and grammar, while kinesthetic learners tended to excel in speaking and writing. Auditory learners showed higher proficiency in listening comprehension and vocabulary acquisition. The correlations were modest but significant, highlighting how catering instruction to learning preferences may support improved foreign language outcomes.

Table 2. Correlation with Language Performance

Learning Style	Speaking	Listening	Reading	Writing	Grammar	Vocabulary
Visual	0.31	0.28	0.52	0.44	0.36	0.34
Auditory	0.55	0.60	0.30	0.25	0.29	0.22
Reading/Writing	0.40	0.35	0.42	0.47	0.51	0.50
Kinesthetic	0.48	0.52	0.38	0.32	0.30	0.28

Auditory learners exhibited the strongest positive relationships with speaking (r = 0.55) and listening (r = 0.60). This alignment is anticipated, as students who favor auditory learning tend to actively engage with spoken language through lectures, dialogues, listening exercises, and peer discussions. Their ease with verbal input and sound patterns likely contributes to stronger oral competency and real-time comprehension, though the processing of visually dense or text-heavy learning materials poses more of a challenge, reflected in their relatively lower performance in reading (r = 0.30) and writing (r = 0.25). This is consistent with prior examination, who observed auditory learners opting to bypass reading in favor of aural reinforcement and memorization [8].

Kinesthetic learners also performed well in speaking (r = 0.48) and listening (r = 0.52). Many expressed through interviews that they benefited from activity-based learning, role-playing scenarios, and physically engaging classroom activities like simulations or language games. For these students, absorbing language is more effective when interconnected with movement, emotion, or practical experiences [9].

A possible explanation is that visual learners benefit from mind maps, word webs, and visually represented grammar rules, enhancing grasp of intricate language structures.However, they revealed weaker associations with speaking and listening, implying that while internalizing written language and its rules, they may require supplementary scaffolding when transitioning to impromptu oral exchange.

Learners recorded the highest correlations with grammar at 0.51 and vocabulary at 0.50. These learners frequently adopt conventional study habits including notetaking, grammar drill books, essay drafting, and vocabulary lists. They exhibited strong scholarly discipline and preference for linguistic minutiae [10].

They also performed well in reading with a 0.42 correlation and writing at 0.47, consistent with processing language primarily through written text. However, their lower scores in speaking (0.40) and listening (0.35) might point to challenges with oral fluency and instant auditory comprehension, suggesting a more text-centered and possibly passive learning experience in interactive settings.

Cross-Analysis and Intersections revealed an interesting finding that some learners strongly identifying with one style still did well in non-traditionally associated domains, possibly due to exposure to varied instructional techniques. For instance, a few auditory learners reported high writing proficiency, attributed to extensive exposure to oral storytelling and dictation exercises later transcribed and refined.

Moreover, students with combined or balanced VARK profiles—though excluded from the correlation tables—tended to demonstrate more consistent performance across multiple language areas. These students reported adapting strategies depending on the task, such as using mind-maps for vocabulary, listening to podcasts for pronunciation, and writing summaries to reinforce grammar rules.

Sociocultural and Academic Factors also appeared to influence the relationship between learning styles and language achievement [11]. In interview data, several students expressed that their strengths in reading and grammar were not solely preference-driven but shaped by years of exam-centric education, where grammar accuracy and reading comprehension were prioritized over fluency or creativity.

Furthermore, students in higher academic years generally showed stronger correlations between their learning styles and language outcomes, which may reflect increasing awareness of their learning preferences and greater autonomy in customizing strategies [12].

5.3. Kinesthetic Learners

One enthusiastic student commented in a brief but complex statement: *"When acting out scenes in language games, the words just seem to flow out. But sitting down to memorize grammar rules, nothing sticks to it."* Kinesthetic learners frequently used embodiments like gesturing to remember vocabulary, searches for language clues around places, mock dining scenarios to practice ordering food, and walking rehearsals of words.Interestingly, these learners were highly driven on assignments

involving creation or presentations where language was applied in action [13]. However, they admitted difficulty focusing on sustained reading alone. This aligns with their lower scores connecting grammar and writing in the survey.

Visual learners greatly value structure, organization, and imagery. They often used color-coded notes, highlighters, thought maps, and diagrams. One meticulous member shared,"*Each rule gets a color-nouns green, verbs red. Then I connect examples in charts to comprehend*."These learners described reading as a strength, saying they could "see" sentence formations in writing. Some used apps like Duolingo or Quizlet are due to visually guided, game-like features.While reading and writing performance was strong, visual learners usually avoided speaking without visual aids like slides, captions, or a whiteboard to reference. This may partly explain weaker correlations between speaking skills and assessment, despite high academic involvement.

Reading/writing learners demonstrated a conventional approach through textbook lessons, note-taking, essays, and translation exercises between grammar and language. One student articulated, *"I enjoy the process of working through material myself with writing and re-reading.""Writing out grammar rules and vocabulary repeatedly aids their retention. The more one writes them, the more they are able to recall them without effort."*

These pupils frequently excelled notably on assessments evaluating grammar and written tasks, citing that putting concepts to paper enabled them to internalize linguistic structures. However, some noted experiencing unease in spontaneous discussions or oral exams, even when grasping the terms, owing to a need to "see the words" just before articulating them.

Others expressed annoyance that classroom activities tended to prioritize "vocal" and "expressive" learners, leaving them with less opportunity for reflection and composition. These viewpoints emphasize balancing pedagogical techniques to respect the strengths of different students.

While the research centered primarily on distinguishing students' dominant ways of learning, several interviewees demonstrated preferences spanning two or more VARK classes near equally. These learners tended to be more adaptable and strategically flexible in their approach to foreign language acquisition. One multi-approach student explained: *"I listen to podcasts on my commute to class, then take notes and generate word webs when I arrive home. "*

6. Discusssions and Conclusions

Visual learners showed potent performance in reading comprehension and writing, likely because their preference for visual aids—including diagrams, color-coded notes, and written exercises—allowed them to excel at structurally and textually analyzing tasks. This upholds earlier findings emphasizing visual learners tend to thrive when language learning involves visual materials and text-based learning [14].

However, the quantitative outcomes exhibited that visual learners wrestled more with talking and tuning in errands. A handful of visual learners in the meetings specified feeling less assured when needed to deliver dialect casually, particularly in unscripted discussions. This may be on the grounds that their learning systems are more contemplative and cognitive, depending on organized data that may not be easily exchanged into real-time verbal correspondence [15]. These scholars may require extra backing in creating liquidity and cooperation aptitude, which could be accomplished through progressively interactive, multidimensional ways to deal with language showing.

Kinesthetic scholars demonstrated a comparable example, dazzling in cooperative undertakings like job-playing and undertaking based exercises. These scholars favored hands-on encounters that permitted them to genuinely participate with the language through development, motions, and useful utilization of dialect in reproduced settings. This positions that scholars who favor dynamic participation and immediate experience tend to learn best when they can contribute in important, real-world settings.

While kinesthetic scholars displayed strong execution in talking and tuning in, their execution in composing and grammar errands was comparatively more fragile. This discovering proposes that

while kinesthetic scholars are solid in correspondence interactive circumstances, they may necessitate target intercessions to reinforce dormant language abilities, for example, grammar and composing, which request more noteworthy cognitive center and stationary consideration. These scholars could profit by joining their inclination for activity with all the more organized, composed dialect practices.While prior studies found that reading/writing learners excel in grammar and vocabulary, this analysis further validated those results.

Such divergent results across learning styles and proficiency levels carry substantial ramifications for foreign language instruction. Given this wide variability between students, teachers must move beyond the one-size-fits-all approach and instead incorporate multi-modal strategies accommodating diverse preferences.

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