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Roles of Aural and Orthographic Vocabulary Knowledge in Intermediate EFL Learners' Listening Comprehension

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ABSTRACT

Although vocabulary knowledge is essential for learning a foreign language, the distinct contribution of aural and orthographic vocabulary knowledge to listening comprehension has not received enough attention. This study investigated the roles of aural and orthographic vocabulary knowledge in intermediate English as a foreign language (EFL) learners' listening comprehension. To this end, 112 intermediate EFL learners were selected through convenience sampling, using the Oxford Placement Test to determine their proficiency level. The tests used in this study were the Vocabulary Levels Test (VLT), the Aural Vocabulary Knowledge (AVK) test, and a listening comprehension test. The scores of the AVK test and those of the listening comprehension test revealed a strong correlation ($r = .63$, $p < .01$); the VLT scores showed a moderate correlation with listening comprehension scores ($r = .41$, $p < .01$). Regression analysis further revealed that AVK was a more effective predictor of English listening comprehension ($\beta = .48$, $p < .01$). In other words, the listening comprehension of intermediate EFL learners depended more on AVK than on orthographic vocabulary knowledge. The results suggest that increasing EFL learners' listening comprehension mostly depends on AVK, which can have a key role in their communicative competence.

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1. Introduction

Listening comprehension as a basic component of English as a Foreign Language (EFL) proficiency, is a tool actively used by students in social, academic, and professional settings (Vandergriff & Goh, 2012). Its importance stems from its main role as a main facilitator of interactive communication. EFL learners frequently struggle with comprehending conversations and talks by native speakers (Dunkel, 1991; Field, 2008). Often these challenges relate to different aspects of vocabulary knowledge, that is, both the word number a person knows and how well they grasp those words (Clenton et al., 2025;

Nation, 2001). Although most agree that vocabulary size is basic for language development, the special contributions of aural (spoken) and orthographic (written) vocabulary knowledge to listening skills have remained understudied, especially in settings where instructional practices emphasize the written forms (Matthews & Lange, 2024). This highlights the need of knowing how aural and written vocabulary knowledge can each help EFL learners, especially those at the lower levels of language proficiency. The multi-dimensionality of lexical skill complicates this task. Effective listening not only demands semantic understanding but also rapid recognition of phonological and orthographic forms, which together enable learners to decode spoken input in real time (Goh, 2000, 2002; Perfetti, 2007; Schmitt, 2010).

Learners with strong aural vocabulary knowledge, for example, or those who can identify and recall word meaning from listening, are likely to be more capable of processing spoken language, hence lowering cognitive load and freeing mental resources for higher-level operations including inferencing or building contextual cues (Vandergrift & Goh, 2012). Conversely, overreliance on orthographic skills, often fostered in education systems that place strong emphasis on written exams, can hinder listening fluency. This is because written forms do not directly relate to the ephemeral, often contracted nature of speech, which offers features such as contractions, elision, and suprasegmental ones like intonation and stress (Ghorbani Nejad & Farvardin, 2022; Matthews & Lange, 2024). In settings like Iran, where grammar-translation approaches govern classrooms, students suffer from phonological blindness—a term Rost (2011) has developed to explain why students attribute listening difficulty to unfamiliar vocabulary rather than unseen connected speech routines. This creates an imbalance of lexis whereby orthographic knowledge overrides phonological knowledge. The interdependence between vocabulary knowledge and listening comprehension has given rise to many debates among scholars (e.g., Matthews & Cheng, 2015; Vandergrift, 2006, 2007).

Neurological awareness science, such as research based on Baddeley's (1983) theory of working memory, shows that the phonemic cycle is an essential subsystem to process listening information. This memory system retains and broadcasts information orally in short-term memory, allowing listeners to link listening signals with internal vocabulary. Particularly in the acquisition of a second language (L2), aural vocabulary knowledge is essential for effective listening comprehension and general language proficiency (Matthews & Cheng, 2015; Matthews & Lange, 2024). Since most daily communication takes place in spoken interaction, learners' success in using real-life language depends directly on their capacity to identify and comprehend vocabulary aurally (Matthews & Lange, 2024). Studies have indicated that a learner's aural vocabulary (Vandergrift & Goh, 2012) greatly influences listening comprehension; insufficient aural lexical knowledge can thus impede processing spoken input in real time. Furthermore, aural vocabulary provides the basis for fluency development, which helps students to decode, interpret, and react correctly in communicative environments (Milton & Fitzpatrick, 2013). Therefore, aural vocabulary knowledge is quite important in social and academic spheres of language use, which emphasizes the need for tests aimed at this particular ability (Goh, 2000, 2002; Harsch, 2014; Milton et al., 2010).

EFL learners at lower levels of proficiency find great challenges in such settings. Elementary and intermediate learners struggle with partial vocabulary knowledge, while advanced learners can use metacognitive strategies for overcoming phonemic knowledge (Elgort et al., 2018). Their limited vocabulary affects real-time comprehension; hence, instead of comprehending long words, they must use too much mental effort in decoding individual words (Matthews & Cheng, 2015; Matthews & Lange, 2024; Wang & MacIntyre, 2021). For the learners who are rarely exposed to lowered phonemes and

the high speaking rate of normal communication, the issue becomes more demanding, especially in the settings where contact with English speakers is limited.

Uchihara et al. (2019) examined the predictive value of aural and orthographic word knowledge for 150 Japanese EFL learners. They used regression analyses and found that knowledge of aural vocabulary ($\beta = .52$) was a stronger predictor of listening comprehension than orthographic knowledge ($\beta = .24$) even when overall proficiency was accounted for. This study attributed these results to the straightforward mapping of phonological processing to listening demands, which corroborated the present findings. They also identified orthographic knowledge indirectly enhancing comprehension through reading-based inferencing, a finding suggesting modality-specific synergies at advanced levels of proficiency. In China, Qiu and Luo's (2022) quasi-experimental study of flipped listening instruction examined pre-class video modules with subsequent in-class interactive tasks appreciably improving listening performance and reducing anxiety in intermediate learners. The emphasis of the flipped method on independent learning allowed students to go over challenging phonological elements, thereby strengthening auditory vocabulary. However, the study's small sample size ($N=44$) and short intervention duration (a single semester) placed a limit on generalizability, calling into question the scalability of such practice in low-resource settings. Similarly, He et al.'s (2022) study on a sample of 797 Chinese students revealed radical modality-specific differences: students performed well on reading comprehension but poorly on listening, which was accounted for by limited practice in listening input and inadequate phonological training. The findings reinforce Stæhr's (2009) earlier study that found orthographic vocabulary moderately related to listening accomplishment in higher-level learners but not intermediate, suggesting written knowledge is beneficial based on proficiency level.

In Iran, the preeminence of standardized tests—e.g., the University Entrance Exam, which gives high priority to grammar and written vocabulary—shapes what is taught, often at the expense of the development of aural skills (Rezai, 2023). Teachers, constrained by rigid curricula and little training in communicative methods, fall back on grammar-translation methods that prioritize translation and memorization over interactive practice listening. Such an approach creates a self-reinforcing cycle where students perform well on paper tests but lag behind in real listening situations, perpetuating the stereotypical belief that listening is a lower priority than reading or writing.

Elgort et al. (2018) explored orthographic processing's role in listening comprehension across levels of proficiency. Their experiment revealed that strong orthographic knowledge hindered novices' phonological decoding by strengthening written form dependency, yet aided advanced learners through subvocalization processes. Through the examination of the following research questions, this study aimed to address the existing gap in the literature:

RQ1: To what extent do intermediate EFL learners' aural vocabulary knowledge test scores and listening comprehension test scores correlate?

RQ2: To what extent do intermediate EFL learners' orthographic vocabulary knowledge test scores and listening comprehension test scores correlate?

RQ3: To what extent do aural and orthographic vocabulary knowledge predict intermediate EFL learners' listening comprehension?

2. Methodology

This study adopted a quantitative, correlational design. This section includes the description of the participants, the instruments, and the data collection procedure.

2.1 Participants and Setting

In this study, 112 intermediate EFL learners aged 16–25 years old from three private language institutes in Ahvaz, Iran, were recruited. Participants were selected through convenience sampling. To ensure homogeneity of proficiency level, all participants took part in the Oxford Placement Test (OPT), and only those in the intermediate band were chosen (i.e., 112 were selected out of 130 EFL learners). Participants were of an evenly balanced demographic profile of high school students (52%), university undergraduates (48%). Gender balance was relatively equal, at 58 female and 54 male EFL learners, to ensure that outcomes were not inappropriately influenced by gender.

2.2 Instrumentation

Participants' aural vocabulary knowledge (AVK) was assessed using a test adapted from Matthews (2018). The test included three levels of word frequency: 23 words from level one (0–2000 frequency range), 27 words from level two (2001–3000 frequency range), and 13 words from level three (3001–5000 frequency range). Its purpose was to evaluate the test takers' competency in both comprehension and production of a total of 63 target words. Words from level one and level two were categorized as highly frequent, while level three words were classified as mid-frequency (Schmitt & Schmitt, 2014). Participants, after listening to a stimulus sentence, were required to select one target word for each item on the AVK test. The test paper included a contextual sentence for each item with a blank space designated for the corresponding target word in written form. Test-takers listened to each sentence only once.

Orthographic vocabulary was assessed using Nation's Vocabulary Levels Test (VLT) (1990), a reliable written test where participants matched 60 target words (like benefit and obtain) to their meanings at 2000-word and 3000-word frequency levels. For example, benefit had choices like advantage or obstacle preceding it with written form—meaning association without context cues. The stratified design of VLT enabled lexical proficiency to be examined at differing levels of proficiency, and pilot adjustments enabled straightforward definitions for intermediate-level learners that were highly reliable ($\alpha = .82$).

Third, listening comprehension was assessed using a test that included six real audio recordings, like lectures and customer service calls, followed by 24 multiple-choice questions that checked for understanding, remembering details, and identifying the main idea. All tests were piloted with 20 students to determine item clarity and timing, which resulted in Cronbach's alpha values above .84, which confirms the reliability.

2.3 Research Procedure

Data collection followed a systematic, multi-phase procedure to ensure rigor and minimize bias. Participants first completed the OPT to establish intermediate proficiency. Only learners who achieved scores in the intermediate band progressed to the main study. Eligible participants

subsequently completed the three tests across three sessions, with the order of the aural and orthographic tests randomized to counteract order effects. For instance, half of the participants did the aural test before the other half did the orthographic test. Both tests were done in a quiet classroom environment to minimize distractions, with explicit verbal and written instructions. Breaks of 5–10 minutes were enforced between sections to counteract fatigue. Ethical practice was rigorously followed: participants provided written informed consent, data were anonymized using ID codes (e.g., P01, P02), and results were stored confidentially for secure storage.

3. Data Analysis

In this section, the results of the normality tests, descriptive statistics, and correlational analyses are presented. First, the assumptions of normality were assessed using the Shapiro-Wilk test. Results indicated no significant deviations from normality for any variables ($p > .05$), supporting the use of parametric analyses (see Table 1).

Table 1

Results of Shapiro-Wilk Normality Test

Variable	W	p
Aural Vocabulary	0.38	.19
Orthographic Vocabulary	0.26	.12
Listening Comprehension	0.21	.09

Table 1 presents the results of the Shapiro-Wilk test, which established whether the distributions of the three principal variables (aural vocabulary, orthographic vocabulary, and listening comprehension) significantly deviated from normal. The W statistic and respective p-values are given. Since all p-values were greater than the .05 significance level, the null hypothesis of normality was retained, confirming that parametric tests were appropriate for subsequent analysis. Table 2 presents means and standard deviations of the three test scores.

Table 2

Results of Descriptive Statistics

Variable	M	SD
Aural Vocabulary (63)	31.5	5.3
Orthographic Vocabulary (60)	38.2	6.5
Listening Comprehension (24)	15.7	3.4

Note. Maximum possible scores are indicated in parentheses.

Table 2 depicts the central tendency and variability of scores for aural vocabulary, orthographic vocabulary, and listening comprehension. The maximum possible scores for each test are provided in parentheses to contextualize performance. For example, the aural vocabulary test had a maximum score of 63, with participants scoring an average of 31.5 ($SD = 5.3$). The mean score of the VLT was ($M = 38.2$, $SD = 6.5$). The participants' mean score in the listening comprehension test was 15.7 ($SD = 3.4$). Pearson correlations revealed significant relationships between the variables (Table 3).

Table 3

Results of Pearson Correlations

Variable	1	2	3
1. Aural Vocabulary	—		
2. Orthographic Vocabulary	.38**	—	
3. Listening Comprehension	.63**	.41**	—

Note. ** $p < .01$

Table 3 displays the correlations between the three variables. Aural vocabulary knowledge showed a moderate positive correlation with orthographic vocabulary ($r = .38$, $p < .01$) and a strong and positive correlation with listening comprehension ($r = .63$, $p < .01$). Orthographic vocabulary also correlated moderately with listening comprehension ($r = .41$, $p < .01$). A multiple linear regression examined the predictive power of aural and orthographic vocabulary on listening comprehension (Table 4).

Table 4

Results of Regression Analysis for Listening Comprehension Prediction

Predictor	B	SE B	β	t	p	95% CI
Aural Vocabulary	0.48	0.09	.48	5.33	<.01	[0.30, 0.66]
Orthographic Vocabulary	0.12	0.07	.12	1.71	.18	[-0.02, 0.26]

Model Summary: $R^2 = .52$

Table 4 details the results of the multiple linear regression analysis predicting listening comprehension scores from aural and orthographic vocabulary knowledge. The unstandardized (B) and standardized (β) coefficients, standard errors (SE B), t-values, p-values, and 95% confidence intervals (CI) are reported. Aural vocabulary emerged as a significant predictor ($\beta = .48$, $p < .01$), with each unit increase in aural scores associated with a 0.48 standard deviation increase in listening performance. Orthographic vocabulary was not a significant predictor ($\beta = .12$, $p = .18$). The model explained 52% of the variance in listening scores ($R^2 = .52$), as indicated by the significant F-statistic ($F(2, 109) = 32.14$, $p < .01$).

4. Discussion and Conclusion

The results showed the key role of aural vocabulary knowledge in intermediate EFL learners' listening comprehension. The strong correlation between aural vocabulary and listening comprehension ($r = 0.63$) is consistent with the hypothesis of Perfetti's lexical quality (2007), showing high-quality phonemic knowledge is essential for listening comprehension. Students with excellent audio vocabulary can decode more effectively, reduce perception efforts, and release more attention for more order-like reasoning or context integration. These results are particularly relevant to educational systems such as Iran, where traditional education emphasizes accuracy in writing related to mastery of the mouth, creating a gap between daily learning and communication requirements. For example, Iranian students work well in writing tests but very badly in the authentic listening tasks because their education emphasizes memorizing spelling forms rather than exposure to spoken language. This system leads to what Rost (2011) described as phonetic blindness, meaning students struggle with understanding spoken language and instead focus on analyzing unfamiliar words.

The results of this study confirm the significant role that aural vocabulary knowledge plays in helping intermediate EFL learners to support their listening comprehension. The strong correlation noted between AVK scores and listening performance ($r = .63$) is in line with previous study by Uchihara et al. (2019), who also found aural vocabulary to be the stronger predictor of listening comprehension compared to orthographic knowledge. Given real-time spoken input requiring quick decoding of acoustic signals, the results support the claim made by Vandergrift and Goh (2012) that phonological processing is more directly linked to listening skill.

The findings also confirm the strong influence of AVK using regression analysis ($\beta = .48$). The use of intermediate learners closes the gap in a literature dominated by advanced learners. Unlike advanced learners who use metacognitive strategies like predicting content or monitoring themselves to compensate for auditory gaps (Vandergrift & Goh, 2012), intermediate learners struggle with phonological representation of words. This difference is explained by Segalowitz's (2005) distinction between knowledge—static word recognition—and skill—dynamic processing under time pressure. An intermediate learner might, for example, correctly define a word in writing but fail to identify it in a rapid academic lecture, so illustrating the difference between declarative knowledge and procedural skill. Emphasizing repeated aural exposure and targeted phonological drills, the situation highlights the need for pedagogical methods that move students from memorization and toward automatic recall. Learners in Iran, where grammar-translation techniques predominate in classroom instruction, receive no practice in parsing connected speech and therefore are not ready for the reduced forms and suprasegmental features of natural spoken English.

By contrast, knowledge of orthographic vocabulary showed a lower but still statistically significant correlation with listening ($r = .41$). This reflects the results of Staehr (2009) and Elgort et al. (2018), who found, especially at lower and intermediate proficiency levels, written vocabulary has only moderate correlation with listening comprehension. An overreliance on written forms can, as Elgort et al. (2018) observed, impede phonological decoding at early stages by reinforcing visual word recognition strategies inappropriate for real-time auditory processing. The lower contribution of orthographic knowledge in the current study most likely results from the instructional bias in Iran, where grammar-translation and exam-oriented approaches limit students' exposure to natural

speech patterns and lower the functional development of listening-related skills (Ghorbani Nejad & Farvardin, 2022).

The cognitive and neurological foundations of language processing offer still another justification for these findings. Baddeley's (1983) working memory model holds that good listening calls for active use of the phonological loop to momentarily store and rehearse spoken input. Stronger aural vocabulary knowledge is probably more effective in this mental process, which can help learners decode, segment, and understand speech with less cognitive load. This can help the lower-level EFL learners, who are in a developmental stage and phonological decoding skills are still developing.

This study backs the recommendations of Matthews and Lange (2024) that enhancing auditory lexical access enhances working memory capacity for higher-order comprehension activities, including contextual prediction and inferencing. These results also support the mounting corpus of data that is pushing pedagogical change in EFL environments. Instructional strategies need to be changed to give spoken language exposure top priority since listening comprehension depends more on aural than orthographic vocabulary knowledge. Research, including Qiu and Luo (2022) and He et al. (2022), has shown that direct listening instruction—supported by interactive and phonologically focused strategies—yields better comprehension outcomes than conventional written-centric models.

Orthographic vocabulary knowledge tends to support skills like reading, but it may also contribute indirectly to listening comprehension. Learners who have well-developed orthographic vocabulary might use this knowledge to engage in mental rehearsal or prediction when listening, especially in academic or test-based settings where prior reading of related texts is common (Clenton et al., 2025). Still, such transfer is often partial and less immediate than aural access. Studies such as Uchihara et al. (2019) have demonstrated that aural vocabulary knowledge has a stronger predictive value for listening comprehension than orthographic vocabulary, particularly among intermediate learners. This is likely because the phonological nature of listening demands rapid auditory decoding that written knowledge alone cannot sufficiently support.

Furthermore, a mismatch between the two types of vocabulary knowledge can lead to processing difficulties (Ghorbani Nejad & Farvardin, 2022; Matthews & Lange, 2024). Learners may recognize a word in writing but not in speech, especially if the spoken form is unfamiliar due to pronunciation differences or lack of phonological training. This discrepancy is especially pronounced in EFL settings, where learners are frequently exposed to words in their written form but rarely hear them pronounced by native or fluent speakers (Goh, 2000, 2002; Harsch, 2014; Milton et al., 2010). In addition, the lexical quality hypothesis (Perfetti, 2007) suggests that high-quality lexical representations include well-integrated form, meaning, and use. Moreover, in line with the findings of this study, it can be argued that aural vocabulary knowledge contributes directly to the phonological aspect of this representation, enhancing the learner's ability to integrate spoken words into meaningful interpretations during listening (Matthews & Lange, 2024). When lexical items are automatically recognized, listeners can allocate more attention to higher-order comprehension processes such as inference-making and interpreting speaker intent (Vandergrift & Goh, 2012). In contrast, poor aural vocabulary knowledge forces learners to focus excessively on decoding, which detracts from overall comprehension.

The frequency of word exposure also plays a critical role in vocabulary development and listening proficiency. High-frequency words are accessed more quickly and reliably, particularly in spoken form, and are essential for achieving fluency (Uchihara, 2019). Instructional environments that emphasize written materials may offer frequent exposure to orthographic forms but insufficient practice with their aural counterparts. Another theoretical construct relevant here is incidental vocabulary learning through listening. When learners engage with spoken input that is slightly above their current proficiency level, they acquire new vocabulary through context-driven inference and repeated exposure (Clenton et al., 2025). This process is more effective when learners have a foundational aural vocabulary that enables them to follow the discourse and isolate new lexical items.

There is also growing evidence that the modality in which vocabulary is learned affects its retrieval. Words learned through listening are more readily recalled in listening tasks, while those learned through reading are more accessible during reading (Matthews, 2018; Matthews & Cheng, 2015; Matthews & Lange, 2024). This modality-specificity supports the need to balance both forms of vocabulary instruction to ensure comprehensive proficiency. In contexts dominated by grammar-translation approaches, learners often have highly developed orthographic vocabulary knowledge but underdeveloped phonological knowledge. This imbalance can lead to difficulties in understanding connected speech, idiomatic expressions, and reduced forms—all of which are essential elements of fluent listening comprehension (Rost, 2011).

The Iranian setting, which is dominated by test-driven methods and little real listening, emphasizes how urgently this change is needed. Teachers have to use more balanced strategies that foster both listening input and vocabulary development in their auditory form—an approach indispensable for closing the distance between classroom learning and actual communication. Furthermore, taken into account is the fact that the intermediate proficiency level of the participants could have influenced the relative significance of aural versus orthographic vocabulary. While lower-level learners depend more on auditory input due to limited decoding skills, advanced learners can use orthographic knowledge strategically through subvocalization and mental rehearsal (Elgort et al., 2018).

The superiority of aural vocabulary knowledge in predicting listening comprehension suggests that learners not yet developing the cognitive strategies or lexical depth need to use written vocabulary as a successful listening aid. Beginning with intensive aural training and progressively including orthographic reinforcement, as learners' proficiency grows, can support instructional strategies (Clenton et al., 2025). The strong predictive ability of aural vocabulary knowledge revealed in this study emphasizes the need to review conventional EFL courses that sometimes exclude listening instruction in favor of reading and grammar.

Learners submerged in systems that favor orthographic input create a distorted lexical profile, which fails to meet the demands of real-time spoken communication, as Matthews and Lange (2024) argued. This mismatch between instruction and practical language use not only reduces learners' communicative competence but also maintains an underperformance cycle in listening assignments. The present results support a more balanced, input-rich pedagogical approach that emphasizes phonological form recognition, integrates frequent exposure to real spoken English, and promotes vocabulary development using both bottom-up and top-down listening strategies. Including listening-oriented tests and assignments fit for the aural lexical demands of daily English can help

teachers close the gap between classroom instruction and communicative efficacy, enabling more autonomous and competent language users.

The strong correlation between listening capacity and aural vocabulary ($R = 0.63$) supports the highlight of the treatment of phonemes in real-time understanding, strengthening theoretical accounts such as the hypothesis of lexical quality (Perfetti, 2007) and Baddeley's (1983) working memory model. These results indicate that the ability of learners to identify and restore word forms reduces the cognitive load and prepares mental resources for high-level processes such as inference. On the other hand, orthographic vocabulary was found to be moderately correlated with listening comprehension. This gap is particularly clear in systems focusing on tests, such as Iran's, where students write good but poor tests in actual listening activities due to contact with the aspects of the connected words, such as shrinking and ultrasound.

Phonological awareness, such as listening tasks using natural speech documents including podcasts, TED Talks, or films, should be prioritized by teachers. Distinguishing tasks of phonemes—for example, the difference between minimal pairs such as ship and sheep or identifying syllables emphasized in polysyllabic words—can refine the decoding ability of learners. Spelling exercises, where learners read less than what is understood, can also facilitate the mapping of forms in a sensitive situation over time, simulating future listening requirements. These methods are linked to the involvement load hypothesis (Laufer & Hulstijn, 2001), which suggests that how a task can help store vocabulary more effectively. However, the implementation of such reforms in systems based on exams, such as Iran, requires a big change. Program designers can reduce excessive writing tests by combining reviews based on listening to real scenarios, such as summarizing audio conferences or answers to loud questions. Teachers' training programs should provide teachers with interactive listening education, including training on technology use, such as language programs with instant feedback options, or to create multimedia lessons combined with images and audio. Intermediate learners may receive these reforms to fill the gap between learning and the real application of language, turning passive learning into more practical one.

The results imply that expanding L2 listening comprehension for students mostly depends on AVK as a main construct of vocabulary knowledge. Supporting other facets of the language and greatly improving learners' L2 listening comprehension seem to depend on a strong lexical basis. Listening comprehension is knowing not only words but also context, idioms, and details. Consequently, increasing a strong vocabulary by diverse exposure and practice can result in more efficient listening comprehension, so enhancing the general communicative competence.

Despite these findings, this research has its own limitations to be taken into account. Replicating studies in different EFL contexts can enhance the research generalization. Research on emotional variables, such as anxiety or motivation, can also reduce their interaction with vocabulary and listening performance. Moreover, examining the roles of different types of vocabulary knowledge across proficiency levels can be insightful and therefore, recommended. Finally, conducting mixed-methods studies are recommended to meticulously explore the roles of aural and orthographic vocabulary knowledge in EFL learners' listening comprehension.

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