Improvement of Listening Performance among Undergraduate Learners of English as a Foreign Language (EFL): A Systematic Literature Review

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Received: December 25, 2024 Accepted: March 10, 2025 Online Published: June 12, 2025

doi:10.5430/wjel.v15n7p278 URL: https://doi.org/10.5430/wjel.v15n7p278

Abstract

One of the most significant language skills in learning a foreign language is listening. So far, however, there has been few studies about techniques to improve listening performance among learners of English as a foreign language (EFL). The aim of this study is to conduct a systematic literature review on the improvement of listening performance among EFL undergraduate learners. The review process included five key methodological steps, which are review protocol, formulation of research question, systematic searching strategies, quality appraisal, and data extraction and analysis. The systematic searching strategies consist of identification, screening, and eligibility on five databases: Scopus, Science Direct, SpringerLink, Emerald and Sage. Three main themes were discovered based on the thematic analysis which are 1) factors influencing listening, 2) computer-assisted technology, and 3) instruction approaches. These three themes are divided into 13 sub-themes. Theme one has six subthemes: 1) phonological kownledge, 2) prosodic knowledge, 3) phraseological and syntactic knowledge, 4) aural decoding, 5) metacognitive knowledge, and 6) noise in the conversation environment; theme two has three subthemes: 1) multimedia source, 2) interactive listening software, and 3) learning management systems platform; and theme three has four subthemes: 1) discrete-items instruction approaches, 2) task-based instruction approaches, 3) strategy-based instruction approaches, and 4) integrated instruction approaches. The theoretical implications of this study inform educators and researchers about the challenges that influence EFL learners' listening and the usefulness of computer-assisted technology and different instruction approaches in improving EFL learners' listening. Future empirical research is needed to validate the discussed technological applications and instructional approaches to improve listening performance, investigate metacognitive instruction approaches where controversial results have persisted, and explore integrated instruction approaches that could enhance EFL learners' ability to understand and use the target language.

Keywords English as a foreign language learner, listening, listening problem, listening performance, listening improvement

1. Introduction

Listening plays a key role in communication and comprehension (Vandergrift, 2007). Nevertheless, it is the least studied and most neglected skill among the four language skills (Newton & Nation, 2020). Listening causes problem as it is a complicated process involving decoding and constructing meaning (Field, 2008). In linguistics, listening does not only involve decoding phonetic and syntactic structures but also the interpretation of meaning that varies based on individual's mastery of the language. Listening performance refers to how well learners are able to understand and respond to spoken language. Accents, vocabulary, culture are examples that challenge and hinder listening of EFL learners.

A considerable amount of literature has been published on difficulties among EFL learners to improve their listening ability. They lack sufficient exposure to native-speaker environments (Gil, 2008; Wei & Su, 2015); could not crack the code of connected speech (Field, 2008; Chen, 2013; Liang, 2015; Ozcelik et al., 2023); cannot keep pace with the rate of the speech (Briguglio & Smith, 2012; Yang & Duan, 2016; Yang, 2017), and do not have adequate vocabulary knowledge (Jasim et al., 2019; Sun & Dang, 2020). These difficulties lead to relatively higher levels of listening anxiety compared to reading and writing anxiety. Thus, listening is considered one of the most difficult language skills for EFL learners (Rahimi & Abedi, 2015).

Listening cannot be improved by simply exposing a student to a recording, then hope the student to naturally learn the skill intended as how he/she learned to listen to and understand their L1 before (Wang & Wen, 2002). Listening cannot be enhanced by merely following the approach adopted in other language skills although at a basic level, language processes or operations, like reading and writing, are either similar or interdependent (Cummins,1979, Zeeland & Schmitt, 2013).

Sane (2004) conducted a comprehensive review on English listening comprehension strategies spanning over 25 years, identifying six primary areas of scholarly focus: listening comprehension problems, the distinction between listening strategies and listening tactics, variations in strategy use among learners, the types of cues listeners rely on, the sequential nature of listening processes and listening strategy instruction. Martin (1982) and Young (1997) suggested that non-native listeners (Spanish or Chinese) tend to employ similar sequential strategies when processing auditory input. Typically, the listeners began by orienting themselves to the listening task, followed by the activation of relevant background knowledge, and subsequently engaged in comparing their understanding with the actual content of the listening text. Harley (2000) argued that second or foreign language learners, irrespective of grade level or their L1 (Chinese or Polish), were more likely to rely on prosodic cues than on syntactic cues when interpreting meaning, much like the native listeners in the primary and middle grade.

Regarding listening strategies, although both high-level and low-level listeners employed cognitive and metacognitive strategies, high-level listeners used these strategies more frequently, more effectively, and with greater awareness and they were also more likely to use metacognitive strategies (Moreira, 1996; Vandergrift, 1993, 1997). For example, high-level listeners were better at monitoring attention and making more effective inferences (O'Malley et al., 1989; Chao, 1997; Rost & Ross, 1991).

EFL listeners experienced difficulties at all stages of listening - perception, parsing, and utilization - with particular challenges occurring at the perception stage (Goh, 2000). Although the listeners recognized that top-down (TD) strategies were more directly helpful for listening comprehension, they often lacked knowledge of how to apply these strategies effectively (Vogely, 1995).

Research on listening instruction was broadly divided into two main approaches. Both Mendelsohn (1994, 1995) and Vandergrift (1996, 1997, 1999) advocated for the integration of strategy training in listening instruction as a means to enhance listening proficiency. In contrast, Field (1998) argued against listening strategy instruction, suggesting that such training may offer limited benefits for learners who struggled with strategy use. He proposed that listening instruction should focus on developing specific skills such as recognizing word boundaries, analyzing sentence components, and inferring the meaning of words from context. Thompson and Rubin (1996) conducted a comparative study involving two groups of learners and found that the group receiving strategy-based listening instruction performed significantly better on the post-listening test than the control group. However, experimental research on listening strategy instruction during this period remained relatively limited.

Flowerdew and Miller (2005) agree that the listening process was a complex one, influenced by a range of factors, including individual, cultural, social, contextual, emotional, strategic, and cross-linguistic elements. Over the past few decades, listening instruction had widely adopted TD, bottom-up (BU), and interactive models; however, these approaches had been insufficient in addressing the complexity of the listening process.

Vandergrift (2007) provided an in-depth review of L2 listening research focusing on listening research methodology, cognitive and affective factors influencing listening, approaches to L2 listening instruction, the integration of technology in listening instruction, and issues related to academic listening and listening assessment. He argued that listening research methodology should place greater emphasis on the reliability of listening tests and the recall protocols, and adopt research instruments such as questionnaires and interviews to investigate the process of listening. Research into the listening processes of learners at different proficiency levels can offer valuable pedagogical insights. Vandergrift (2007) further suggested that listening instruction should shift its focus from preparing learners for listening to guiding them through the processes involved during listening. The use of web-based multimedia listening practices to help learners segment and recognize words was shown to be feasible; however, whether such skills can be effectively transferred to real-life listening contexts remained to be verified.

Although there are various studies on how to improve listening performance at present, far too little attention has been paid to systematically reviewing these studies and identifying patterns on the subject. In addition, research that adopts the review procedures, including identification, screening, and eligibility has not been found.

The empirical evidence in this review can be used to identify the gaps and to guide the direction for future research in this field. In conducting the review, the authors were guided by the main research question: "How do EFL undergraduate learners improve their listening performance?" The main focus of this paper lies on the improvement of listening performance of EFL learners since it is important to enhance EFL language proficiency through the advancement in listening ability.

2. Methodology

2.1 Review protocol-ROSES

The SLR is guided by ROSES (Reporting Standards for Systematic Evidence Syntheses), which was developed by Haddaway et al. (2018) to strengthen and maintain a robust methodology for systematic evidence synthesis. Originally designed for the field of environmental management, ROSES is not limited to this domain and is also applicable to various contexts and research areas. Additionally, ROSES provides an evidence synthesis checklist, offering a brief overview of descriptive information of key methodological steps. Compared to PRISMA, ROSES places a greater emphasis on transparency (Haddaway et al., 2018). For example, in one of the key methodological steps--critical appraisal, it clearly states "Describe the method you propose for critical assessment of study validity". This is an exact expression requiring the researchers to provide sufficient details of the quality of the studies selected for the systematic review. As a result, its checklist is clearer and more transparent, which can also improve the reliability of evidence synthesis (Haddaway & Macura, 2018).

Therefore, ROSES suits the current review concerning its higher transparency, control of the review quality, and operability of systematic evidence synthesis.

Following ROSES framework, the systematic literature review (SLR) commenced by formulating the research question by applying PICo method: 'P' for Problem or Population, 'I' for Interest, and 'Co' for Context (Lockwood et al., 2015). Subsequently, a document search strategy was devised and implemented through three systematic phases: identification, screening, and eligibility. An evaluation of quality was then carried out based on the adapted criteria provided by Hong et al. (2018). During this phase, the quality of each selected article was assessed before its inclusion in the review. Finally, these articles went through data extraction and analysis. The primary research question serves as the guide for the data extraction procedure, and the data collected is analyzed using thematic synthesis.

2.2 Formulation of Research Question

In formulating the research question, two sources were employed. First, the ideas from the past studies, including those by Robillos & Bustos (2022), Maftoon & Alamdari (2020), and Liu & Yuan (2021). Every article discussed how different factors or instructions impact EFL undergraduate learners' listening performance. Second, the implementation of PICo.: EFL undergraduate learner (Population), the listening performance (Interest), and the improvement measures (Context). This approach facilitated the formulation of the core research question: "How do EFL undergraduate learners improve their listening performance?"

2.3 Systematic Searching Strategies

The authors adopted three systematic procedures—identification, screening, and eligibility—proposed by Shaffril et al. (2021) to retrieve pertinent articles. Employing these strategies enabled the comprehensive location and synthesis of studies, contributing to the execution of a well-structured and transparent SLR.

2.3.1 Identification

Based on the formulated question, three main keywords were identified. They are listening performance, listening improvement and EFL learners. The combinations of these keywords were manipulated using search functions, including field code functions, phrase searching, wildcards, truncation, and Boolean operators. Prior to the process, the authors enriched the keywords. For example, to find the synonyms of the keyword "improvement", the authors sought an online thesaurus. There are dozens of words similar in meaning to "improvement", such as advance, advancement, enhancement, rise, upgrade and so on. After referring to the keywords frequently used in past studies, rise and upgrade are excluded. Therefore, "improvement, advance, advancement, enhancement, change, development, gain, growth, increase, progress" were finally decided as appropriate keywords. Additionally, the keyword "EFL learners" was adopted instead of "undergraduate/ college/ university EFL learners" which are too narrow to confine the searching results. Table 1 presents the search string employed for the study. Based on the search efforts, a total of 350 potential articles were identified from the selected databases.

Table 1. Search string used in the selected database

Database	**String**
Scopus	TITLE-ABS-KEY ("improvement*" OR "advance" OR "advancement*" OR "enhancement" OR "change*" OR "development*" OR "gain*" OR "growth" OR "increase*" OR "progress") AND TITLE-ABS-KEY ("listening performance" OR "listening" OR "listening ability" OR "listening comprehension" OR "listening proficiency" OR "listening skill*") AND TITLE-ABS-KEY ("university language learner*" OR "EFL learner*" OR "english as a foreign language learner*" OR "non-native English language learner*")
Science Direct	"listening performance" "EFL learners"
SpringerLink	"listening performance" "EFL learners"
Sage	"listening performance" "EFL learners"
Emerald	"listening performance" "EFL learners"

2.3.2 Screening

Screening was the second procedure carried out, during which articles were selected based on the inclusion and exclusion criteria as presented in Table 2. In this stage, titles, abstracts or full texts of articles were assessed to identify studies that meet the research objectives and quality standards. In line with the conception of 'research field maturity' highlighted by Kraus et al. (2020), this review limited the screening process to articles published exclusively from 2019 to 2023. This timeframe was selected because the quantity of published studies during this period was deemed sufficient to conduct a comprehensive and representative review. The authors opted to examine empirical research papers as they provide primary data. Given that the research objective aimed to explore listening performance in social science, arts and humanities research, studies in education and linguistic were selected to enhance the likelihood of obtaining a greater number of articles pertaining to listening performance.

With the assistance of the database, 146 potential articles were initially selected. The authors then manually examined the remaining papers to determine whether they adhered to the established inclusion criteria, based on an analysis of the title, abstract, or full text. 78 articles were excluded during the title and abstract screening phase. An additional 26 articles were excluded because they focused on L2 rather than foreign language research, or because they did not solely focus on listening performance. In total, 310 articles were excluded from the

review at this stage for not meeting the inclusion criteria. This led to 40 articles that remained for evaluation in the next phase.

Table 2. Inclusion and exclusion criteria

Criterion	Inclusion	Exclusion
Timeline	2019-2023	2018 and earlier
Document type	Articles Only (with empirical data)	Review article, chapter in a book, book, conference proceeding, etc
Language	English	Non-English
Subject area	Social Science, Arts and Humanities, Education, Linguistics	Medical, public health, environmental science, engineering, geography, other non-social science studies
Population	Undergraduate learners	Primary, high school students, Masters, Postgraduates, English language institute students or other non-undergraduates

2.3.3 Eligibility

To further ensure relevance, the remaining papers were carefully reviewed against the inclusion criteria by examining their titles, abstracts, or full texts. Eleven articles were excluded during the title screening state，and four additional articles were removed during the abstract screening state. Five articles were excluded after the authors read the content of the selected articles. In total, 20 articles were removed at this stage due to their lack of exclusive focus on listening performance or because they concentrated on perceptions of listening performance. As a result, 19 articles proceeded to the quality appraisal stage was 19. The phase is illustrated in Fig. 1.

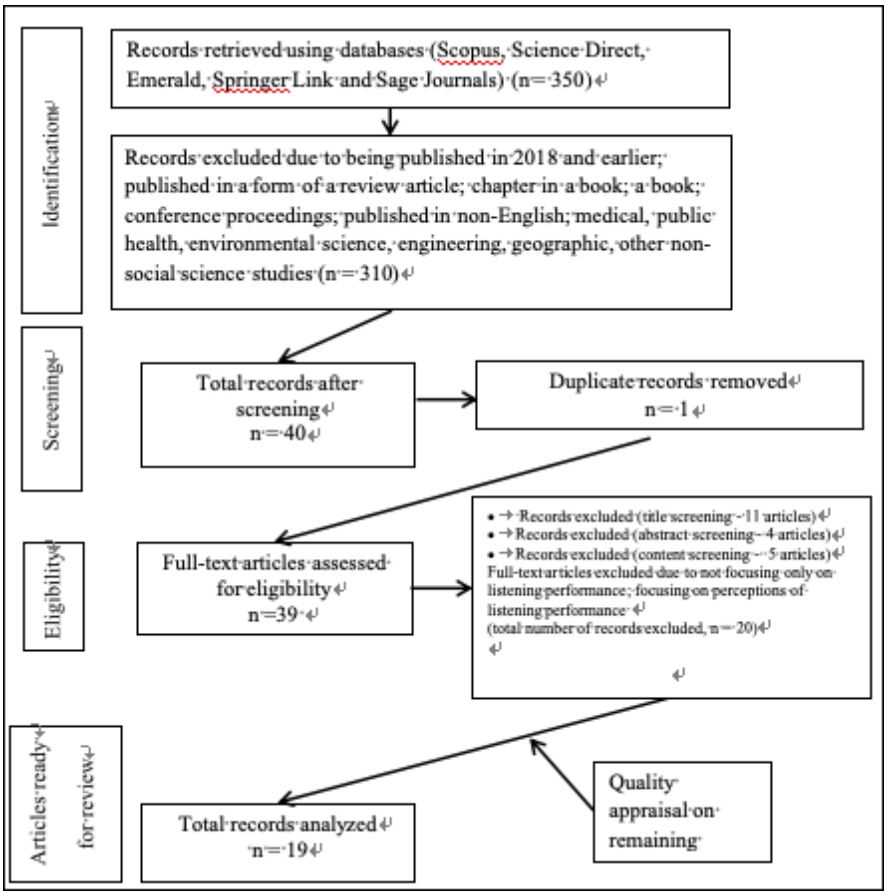

Figure 1. Flow diagram of the searching process

2.4 Quality Appraisal

The quality appraisal phase was conducted to ensure that the methodology and analysis of the selected studies met acceptable academic standards. To this end, the Mixed-Method Appraisal Tool (MMAT), developed by Hong et al. (2018), was employed. The MMAT is designed to facilitate the evaluation of systematic mixed studies reviews and encompasses the assessment of five types of studies: qualitative research, randomized controlled trials, non-randomized studies, quantitative descriptive studies, and mixed methods studies (Hong et al., 2018). Each selected study underwent the screening and eligibility processes before proceeding to the quality appraisal phase. The included

articles were then evaluated using five core criteria based on their respective research designs.

Two expert authors then assessed each article's methodological and analytical rigor. Each article was carefully read, with particular attention paid to its objectives, methodology and results sections to scrutinize whether the questions were adequately addressed using appropriate measurements and analyses. Guided by the MMAT, each article was assessed based on the five criteria with two options provided in presenting their answers: "yes" and "no". Articles were included in the review if they passed four of the five criteria. All assessment decisions were based on the final agreement between the authors. Table 3 presented the 19 articles with 17 articles fulfilling all criteria and two articles fulfilling four criteria.

Table 3. Results of quality results

Study	Research Design	QA1	QA2	QA3	QA4	QA5	Number of criteria fulfilled	Inclusion in the review
Fujita (2022)	MX	✓	✓	✓	✓	✓	5/5	✓
Robillos (2023)	MX	✓	✓	✓	✓	✓	5/5	✓
Masrai (2020)	QN(D)	✓	✓	✓	✓	✓	5/5	✓
Yabukoshi (2023)	QN(D)	✓	✓	✓	✓	✓	5/5	✓
Taghizade et al. (2022)	MX	✓	✓	✓	✓	✓	5/5	✓
Qiu & Xu (2022)	MX	✓	✓	✓	✓	✓	5/5	✓
Vu et al. (2022)	QN(D)	✓	✓	✓	✓	✓	5/5	✓
Barjesteh & Ghaseminia (2023)	QN(D)	✓	✓	✓	✓	✓	5/5	✓
Aldukhayel (2021)	MX	✗	✓	✓	✓	✓	4/5	✓
Yenkimaleki et al. (2023)	QN(D)	✓	✓	✓	✓	✓	5/5	✓
Luu et al. (2021)	MX	✓	✓	✓	✓	✓	5/5	✓
Du et al. (2022)	QN(D)	✓	✓	✓	✓	✓	5/5	✓
Miao (2021)	MX	✓	✓	✓	✓	✓	5/5	✓
Du & Man (2022)	QN(D)	✓	✓	✓	✓	✓	5/5	✓
Li et al. (2020)	QN(D)	✓	✓	✓	✓	✓	5/5	✓
Ke & Wang (2022)	QN(D)	✓	✓	✓	✓	✓	5/5	✓
Lee et al. (2021)	MX	✗	✓	✓	✓	✓	4/5	✓
Miller & Dimoski (2021)	QN(N)	✓	✓	✓	✓	✓	5/5	✓
Hamada (2022)	QN (D)	✓	✓	✓	✓	✓	5/5	✓

2.5 Data Extraction and Analyses

The data extraction in this review primarily relied on thematic analysis. Thematic analysis is a systematic method for identifying patterns, similarities, and relationships within data, ensuring that the organization and interpretation of the data align with the research objectives (Braun & Clarke, 2019). This method is divided into three main steps. The first step is the familiarization with the data. Researchers actively and repeatedly read through the data to gain an in-depth understanding of the entire dataset, ensuring they fully grasp all relevant information and nuances. The second step involves inducing a basic coding framework, where themes naturally emerge from the raw data. The coding process adopts an inductive framework, ensuring that the codes are drawn directly from data closely related to the research question. The third step is the theme generation. This step is achieved through iterative review and refinement of the codes and themes. The identification of the sub-themes follows the same procedure.

3. Results

3.1 Background of the Selected Studies

From 19 articles, a total of seven papers focused their studies in China (Qiu & Xu 2022, Du et al. 2022, Miao 2021, Du & Man 2022, Li et al. 2020, Ke & Wang 2022, Lee et al. 2021), four in Japan (Fujita 2022,Yabukoshi 2023, Miller & Dimosk 2021, Hamada, 2022), and three in Thailand (Vu et al. 2022, Luu et al. 2021, Robillos 2023), two in Iran (Barjesteh & Ghaseminia 2023, Taghizade et al. 2022) and Saudi Arabia (Aldukhayel 2021, Masrai 2020) respectively, and one in Netherland (Yenkimaleki et al. 2023). This is illustrated in Figure 2.

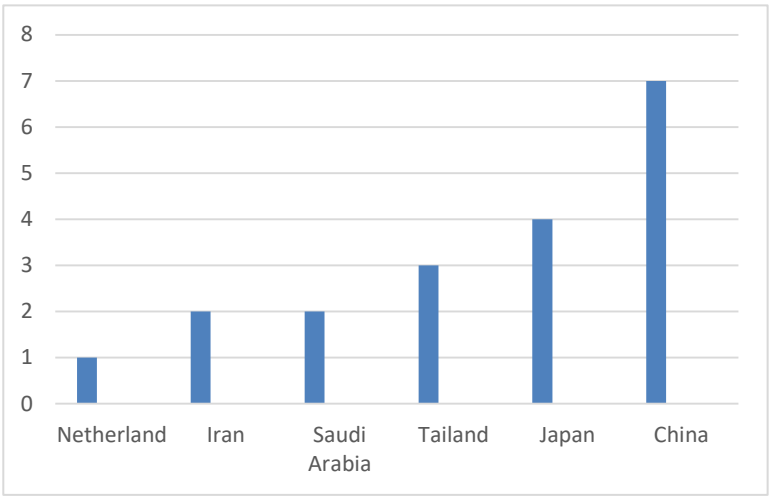

Figure 2. Countries where the selected studies were conducted

It was recorded that nine studies focused on mixed method analysis (Fujita 2022, Robillos 2023, Taghizade et al. 2022, Qiu & Xu 2022, Aldukjayel 2021, Luu et al. 2021, Hamada 2022, Miao 2021, Lee et al. 2021) while ten studies focused on quantitative descriptive analysis (Ke & Wang 2022, Li et al 2020, Du & Man 2022, Du et al. 2022, Yenkemaleki et al. 2023, Barjesteh & Ghaseminia 2023,Vu et al. 2022, Yabukoshi 2023, Masrai 2020,Miller & Dimoski 2021). Only one study focused on quantitative non-descriptive analysis (Hamada, 2022). This is illustrated in Figure 3.

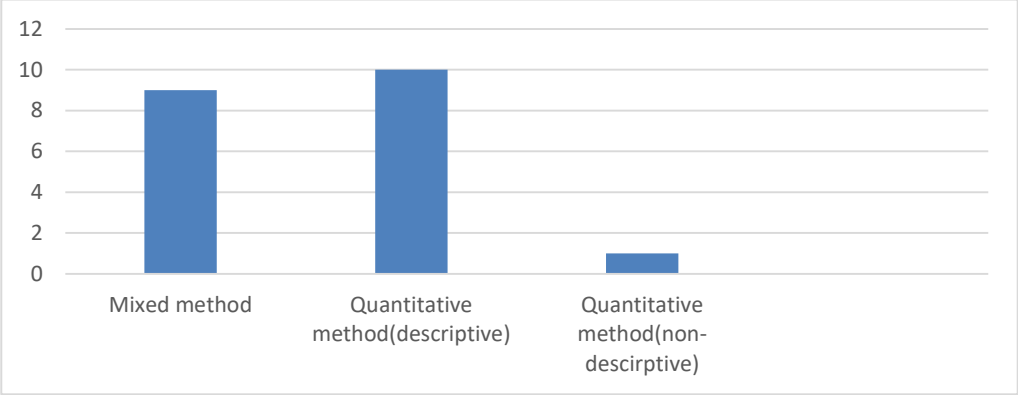

Figure 3. Research design of selected studies

Regarding the year of publication, two articles were published in 2020 (Li et al., 2020; Masrai 2020), five articles were published in 2021(Lee et al. 2021, Miller & Dimosk 2021, Miao 2021, Luu et al. 2021, Aldukhayel et al. 2021), eight articles were published in 2022 (Vu et al. 2022, Qiu & Xu 2022, Fujita 2022, Hamada 2022, Du et al. 2022, Taghizade 2022, Du & Man 2022, Ke & Wang 2022) and four were published in 2023 (Robillos 2023,Yabukoshi 2023,Yenkimaleki et al. 2023, Barjesteh & Ghaseminia 2023). This is illustrated in Figure 4.

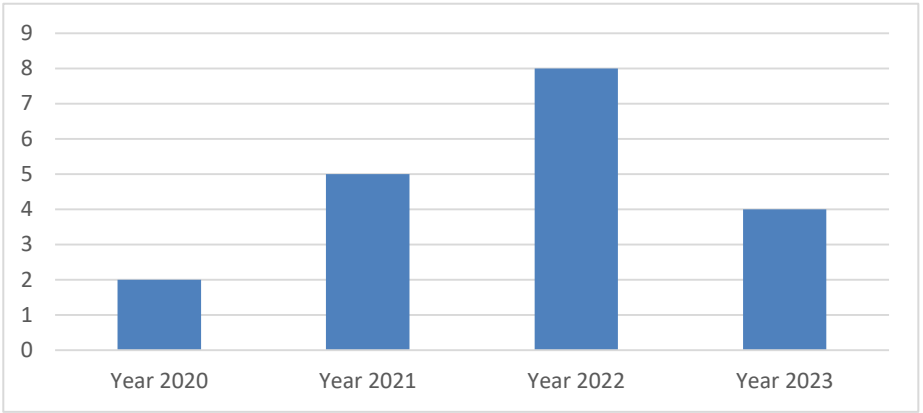

Figure 4. Publication years of selected studies

Table 4. Selected journals and their ranking

	Total number of selected articles	Indexed by Scopus	Scopus Quartile (referring to the latest information	Indexed by JCR	JCR Quartile by journal impact factor (referring to the latest information)
System	3	✓	Q1	✓	Q1
International Journal of Listening	3	✓	Q1	-	-
Language Teaching Research	3	✓	Q1	✓	Q1
CALL-EJ	2	✓	Q1	-	-
Language Learning and Technology	1	✓	Q1	✓	Q1
Language Learning Journal	1	✓	Q1	✓	Q1
RELC Journal	1	✓	Q1	✓	Q1
IRAL-International Review of Applied Linguistics in Language Teaching	1	✓	Q1	✓	Q2
Innovation in Language Learning and Teaching	1	✓	Q1	✓	Q1
International Journal of Instruction	1	✓	Q1	✓	-
Chinese Journal of Applied Linguistics	1	✓	Q2	✓	-
Lingua	1	✓	Q1	✓	Q3

The review revealed that three articles were published in System (Qiu & Xu 2022, Du & Man 2022, Ke & Wang 2022), three articles were published in International Journal of Listening (Fujita 2022, Barjesteh & Ghaseminia 2023, Masrai 2020) and three other articles were published in Language Teaching Research (Taghizade et al.2022, Lee et al. 2021, Miller & Dimosk 2021). Two articles were published in CALL-EJ (Luu et al. 2021, Wu et al. 2022). One article was published in Language Learning and Technology (Aldukhayel 2021), Language Learning Journal (Yenkemaleki et al. 2023), RELC Journal (Hamada 2022), International Review of Applied Linguistics in Language Teaching (Du et al. 2022), Innovation in Language Learning and Teaching (Yabukoshi 2023), International Journal of Instruction (Robillos 2023), Chinese Journal of Applied Linguistics (Miao 2021), and Lingua (Li et al. 2020), respectively. All selected journals were indexed by Scopus and almost all were indexed in the Journal Citation Report (JCR). Most articles were ranked in Quartile 1 and this is presented in table 4.

3.2 The Developed Themes

Extensive research in the field of EFL listening has delved into approaches to enhancing students' listening proficiency over an extended period (Miao, 2021). Based on the 19 articles included after the quality appraisal, three main themes were identified:1) factors influencing listening, 2) computer-assisted technology 3) instruction approaches. Under the first theme, there are six subthemes. They are 1) phonological knowledge, 2) prosodic knowledge, 3) phraseological and syntactic knowledge, 4) aural decoding, 5) metacognitive knowledge and 6) noise in the conversation environment. Within the second theme, there are three subthemes: 1) multimedia source, 2) interactive listening software, and 3) learning management systems platform. Under the last theme, there are four subthemes. They are 1) discrete-items instruction approaches, 2) task-based instruction approaches, 3) strategy-based instruction approaches, and 4) integrated instruction approaches. Therefore, there are 13 subthemes in total as presented in Table 5.

Table 5. Findings

Author/Theme	Factors influencing listening						**C**omputer-assisted technology			Instruction approaches			
Subtheme	Phonology	Prosody	PSK	Metacogition	AD	NICE	MS	ILS	LMSP	DIIA	TBIA	SBIA	IIA
Fujita (2022)								✓	✓				
Li et al. (2020)	✓		✓	✓									
Du & Man (2022)	✓			✓									
Du et al. (2022)	✓												
Masrai (2020)	✓						✓						
Yenkimaleki et al (2023)	✓	✓								✓			
Hamada (2022)	✓											✓	
Barjesteh &Ghasemina (2023)							✓				✓		
Miao (2021)											✓		
Luu et al. (2021)		✓							✓				
Vu et al. (2022)	✓		✓					✓					
Aldukhayel (2021)					✓				✓				
Lee et al. (2021)							✓						
Robillos (2023)												✓	

Yabukoshi (2023)						✓	
Taghizade et al. (2022)						✓	
Qiu & Xu (2022)						✓	
Miller & Dimoshi (2021)							✓
Ke & Wang (2022)		✓					

PSK=Phraseological and syntactic knowledge
AD=Aural decoding
NICE=Noise in the conversation environment
MS=Multimedia source
ILS=Interactive listening software
LMSP=Learning management systems platform
DIIA=Discrete-items instruction approaches
TBIA=Task-based instruction approaches
SBIA=Strategy-based instruction approaches
IIA=integrated instruction approaches

3.2.1 Factors Influencing Listening

3.2.1.1 Phonological Knowledge

Phonological studies in EFL listening focused on aural vocabulary (Du & Man, 2022; Li et al., 2020), phonological vocabulary (Masrai, 2020), and receptive vocabulary (Du et al., 2022). Phonological knowledge is about the sound systems of language and how these sounds function and pattern in particular languages. Phonological vocabulary, aural vocabulary, and receptive aural vocabulary are interconnected but distinct concepts. Phonological vocabulary has a broader scope, encompassing the phonological aspects of vocabulary, such as pronunciation, stress, and syllable knowledge. Aural vocabulary refers to the words that listeners can recognize during listening. Among the recognized words, some may only be identifiable during listening, while others can still be recalled afterward. Words that are only recognized during listening are referred to as receptive aural vocabulary. Despite their different emphases on aspects of vocabulary knowledge, they all highlight the phonological knowledge of vocabulary.

Aural vocabulary knowledge has a strong relationship with listening comprehension. Aural vocabulary knowledge accounted for approximately 61% of the variance in listening scores (Masrai, 2020). Similarly, the study results by Li et al. (2020) also evidenced that aural vocabulary knowledge was the most important predictor of L2 listening comprehension compared to phraseological knowledge, syntactic knowledge and metacognition. Specifically, it accounted for 22.8% of variance in listening while phraseological knowledge accounted for 11.1%, syntactic knowledge for 2.7%, and metacognition for 5.9%. Du & Man's study (2022) obtained similar results: among aural vocabulary size, metacognitive knowledge, self-efficacy, and strategy use, listening comprehension was significantly predicted by auditory vocabulary sizes and listening metacognitive knowledge，together explaining 20.9% of the variance in L2 listening comprehension, with aural vocabulary size showing a greater impact.

Du et al. (2022) further pointed out that the level of receptive aural vocabulary knowledge was more beneficial for improveing listening comprehension among Chinese college students with intermediate English proficiency. They categorized a total of 5,000 vocabulary words into five levels, each consisting of 1,000 words, denoted as Level 1-5(L1, L2, L3, L4 & L5). Additionally, academic vocabulary was included in this study. Among the different levels, the intermediate level listening vocabulary (L2, L3) and academic vocabulary exhibited a stronger relationship with listening scores compared to advanced vocabulary (L4 & 5) and basic vocabulary (L1 & 2), with a moderate effect size. In terms of predictive power, only L2 vocabulary and academic vocabulary demonstrated the ability to predict listening scores.

3.2.1.2 Prosodic Knowledge

Prosody refers to the rhythmic, melodic, and intonational aspects of speech. It encompasses elements such as stress, pitch, duration, and intonation, which are crucial for conveying meaning, emotion, and emphasis in spoken language. Prosody helps to structure speech, indicating pauses and the flow of conversation, thereby aiding comprehension. For the beginning level of Vietnamese EFL learners, prosody-driven practice in a computer-assisted self-regulated listening platform was found to be effective (Luu et al., 2021). The results highlighted the importance of giving prosody first priority. Prosodic information is critical to understanding spoken language because it may provide the fundamental framework that allows listeners to retain an auditory linguistic sequence in memory while the brain processes it (Frazier et al., 2006)

3.2.1.3 Phraseological Knowledge and Syntactic Knowledge

In order to investigate whether phraseological knowledge contributed uniquely to listening, as an independent variable from vocabulary knowledge, Li et al. (2020) conducted a study to probe into the relationship among auditory vocabulary knowledge, phraseological knowledge, syntactic knowledge, and metacognition and listening. The results demonstrated that the most important indicators of listening performance were auditory vocabulary knowledge, phraseological knowledge and syntactic knowledge. While syntactic knowledge and metacognition had a weak importance in predicting listening performance, audio vocabulary knowledge and phraseological knowledge had a moderately strong significance in predicting listening performance.

3.2.1.4 Aural Decoding

Aural decoding involves recognizing and deciphering the sounds of spoken words and converting them into meaningful linguistic units, such as words or phrases, which is crucial for understanding spoken communication. Learners' decoding level and L2 listening comprehension were highly related and aural decoding scores predicted 46.9% of the variance in L2 listening comprehension (Ke & Wang, 2022). Additionally, the results showed that the most frequent decoding errors tended to be those that had no similarities to the input and those that were phonetically similar to the input.

3.2.1.5 Metacognitive Knowledge

Du & Man (2022) conducted a study to investigate the predictive power of person factors (i.e., aural vocabulary size, listening metacognitive knowledge, and listening self-efficacy) and listening strategy use (i.e., TD strategies and BU strategies) on L2 listening comprehension. The research results indicated that auditory vocabulary size and metacognitive knowledge of listening were significant predictive factors for L2 listening comprehension, while listening self-efficacy did not have a direct impact on L2 listening comprehension. Furthermore, the study found that listening strategy use did not directly influence L2 listening comprehension, nor did person factors indirectly affect L2 listening comprehension through the use of strategies.

3.2.1.6 Noise in the Conversation Environment

Listening comprehension is influenced by noise. To investigate the impact of different noise conditions on EFL learners' listening, Fujita (2022) conducted a study. The findings revealed that learners' listening comprehension was significantly affected by background noise across all noise levels, with both scores and confidence levels decreasing as noise levels increased. Moreover, learners exhibited differences in their use of contextual information at different noise levels and they were more likely to rely on context information under lower noise conditions.

3.2.2 Computer-Assisted Technology

Computer-Assisted Language Learning (CALL) involves the use of computers and technology to support and enhance the process of language learning. In the context of EFL listening, CALL provided various tools and resources to improve learners' listening comprehension and overall language skills, including interactive listening software, learning management systems platform, multimedia source (Aldulhayel, 2021; Barjesteh & Ghaseminia, 2023; Lee et al., 2021; Masrai, 2020).

3.2.2.1 Multimedia Source

Compared to video-based tasks and topic preparation tasks as pre-listening tasks, only the podcast pre-listening task was able to predict listening performance in gap-filling and jigsaw tasks (Barjesteh & Ghaseminia, 2023). Podcasts, according to Warschauer and Healey (1998), are a type of computer-assisted language learning (CALL) technology that allows language learners to acquire languages in realistic, meaningful, and authentic circumstances.

Vlogs have gained popularity recently as a result of the Internet and technical improvements (Wood,2019). They attracted a wide audience and can provide language learners with authentic real-world language materials because vloggers share their personal hobbies, daily experiences, and interactions with others from a contextualized perspective (Snelson, 2015). Vloggers come from different linguistic backgrounds, and their accents, pronunciation, or regional dialects can vary widely. Captions may make vlogs easier to understand for learners with lower language proficiency. Aldulhayel (2021) investigated the effect of different caption conditions (L2, L1caption, no caption) on EFL learners' listening performance. The results indicated Vlogs with different caption conditions showed no difference in EFL learners' listening performance. But when concerning the English proficiency of the EFL listeners, there was a significant difference in listening comprehension between high- and low-proficiency learners. High-proficiency learners achieved better comprehension than low and mid-proficiency learners, achieving the best comprehension with L2 captions.

Masrai's study (2020) found out that watching an extensive amount of L2 films developed the listeners' aural vocabulary and improved their listening comprehension. In addition, it showed that out-of-class subtitled L2 TV viewing enhanced phonological vocabulary gains and listening comprehension. Even L2 learners with prior aural vocabulary knowledge of about 1600 words were able to increase their aural vocabulary at a rate of 5 words per viewing hour.

Lee et al. (2021) noted that L2 caption conditions in TED Talks impacted differently on different learning style EFL high-intermediate listeners (more-caption-reliant, less-caption-reliant). When the participants' dependence on the captions was not considered, the results revealed no discernible variation in their listening comprehension performance across the four caption situations (full vs. partial vs. real-time vs. control). However, when this was considered, there was significant difference of listening performance under different caption conditions. L2 learners who were less reliant on subtitles exhibit optimal listening comprehension results under partial subtitle conditions, while performing the worst under full subtitle conditions. Conversely, L2 learners who relied more on subtitles demonstrate optimal performance under full subtitle conditions but exhibited poorer performance under partial subtitle conditions. This finding emphasizes the importance of considering the processing characteristics of L2 learners when using subtitles video in a listening material.

3.2.2.2 Interactive Listening Software

Interactive listening software is a type of Intelligent Computer-Assisted Language Learning (ICALL) application. It allows for immediate feedback, which is crucial for reinforcing learning. Through this computer-assisted learning tool, learners can select passages of interest to

transcribe, choose how many times to listen, decide when to pause for transcription, and access various forms of assistance such as rewind, corrective feedback, and dictionary lookup. The entire listening learning process is highly autonomous. Compared to learning platforms such as Google Classroom, the key difference is the ability to get feedback more instantly and engage learners in different task formats more actively. In Vietnam, Vu et al. (2022) studied the effect of "Listening Hacked" on EFL undergraduates' listening performance. "Listening hacked" focuses more on mapping sounds to forms, distinguishing vocabulary, and identifying sentence stress, thus making it more effective in cultivating listening skills. With these exercises learners can directly identify errors in phonetic recognition or transcription during listening practice. The results evidenced after 12 weeks of intervention of transcribing unsubtitled chunks (phrases, clauses), the experimentl group (EG) improved their listening significantly, while the students in the control group (CG) (using Google Classroom) did not show evidence of improvement.

3.2.2.3 Learning Management Systems Platform

Learning Management Systems (LMS) platforms allow for the structured delivery of listening materials, assessment tools, and feedback, offering significant benefits for both teachers and learners. Vandergrift (2011) contended CALL can be used to develop perception skills by providing transcripts of audio texts and playing audio repeatedly. The learning platform is crucial in inspiring and reinforcing learners' autonomous learning, empowering them to take charge of their education and use active, personally relevant tactics both within and outside of the classroom (Littlewood, 1990). Luu et al. (2021), who conducted their research in beginning Vietnamese undergraduates, reported that compared to students taught listening with a traditional classroom-based method, the participants taught in a computer-assisted self-regulated listening platform improved their listening significantly. It is worth noting that while the results highlight the need to prioritize prosody, they also emphasize taking advantage of technology developed in the learning platform such as listening to low-pass filtered audio, incorporating repetition with body movements, practicing shadowing and writing the text down in a designated box to improve listening comprehension. For example, low-pass filtering recording technology can highlight specific pronunciations or intonations, enhancing learners' sensitivity to rhythm perception.

3.2.3 Instruction Approaches

3.2.3.1 Discrete-items Instruction Approaches

Linguistic explicit instruction refers to teaching language rules, structures, and forms in a clear, direct manner. This often includes grammar explanations, vocabulary lists, and pronunciation rules. When learners are explicitly taught linguistic elements such as phonology (sounds), syntax (sentence structure), and discourse markers (e.g., "however," "because"), their comprehension during listening improves. This is because they can consciously recognize and interpret what they hear based on these prior instructions. EFL listeners first need to identify differences between L2 sounds, or between L2 and L1 sounds in various speech environments, and then can they produce it in a way similar to the target language (Flege, 1995). Based on the listening theory aforementioned, Yenkimaleki et al. (2023) conducted a study to investigate the impact of segmental instruction, suprasegmental instruction and the segmental and suprasegmental integrated instruction on listening. The results showed that holistic instruction, which included both segmental and suprasegmental training, was more beneficial for improving listening comprehension than separate segmental or suprasegmental training alone, regardless of whether the latter groups' practice was centered on perception or production.

Phonological instruction helps direct learners' attention to specific phonological features, such as reduced forms, linking, and elision, which are common in fast speech but often go unnoticed by untrained learners. Training that emphasizes feedback and exercises on misheard or misunderstood words and phrases has been proved effective in improving EFL learners' listening (Vu et al., 2022). Prosodic instruction helps learners become sensitized to and internalize prosodic patterns of some utterances, which can also improve their listening (Luu et al., 2021). In addition, the research conducted by Hamada (2022) among Japanese university students, who commonly struggle with the recognition of /f, v, θ, ð, l, ɹ/ sounds, demonstrated a significant effectiveness of explicit phonological instruction on listening performance. The results revealed notable improvements in phonemic recognition, with the most significant enhancement observed in the recognition of /θ/.

3.2.3.2 Task-based Instruction Approaches

Pre-listening task Listening preparation has consistently been considered a crucial method for stimulating relevant knowledge and vocabulary to enhance listening comprehension. In a study conducted by Barjesteh & Ghaseminia (2023), three different types of listening preparation (podcast, video short program, and traditional preparation) were compared in terms of their effectiveness among three groups of intermediate English proficiency Iranian university students. A multiple regression analysis revealed that, among the three types of preparation, only podcast preparation could predict listening scores. Specifically, it explained 26% and 50% of the variance in listening variables for fill-in-the-blank and jigsaw tasks, respectively. One-way ANOVA analysis results indicated significant differences between the groups, and post-hoc analysis further revealed a significant difference in the impact on listening scores between podcast and video short program preparations.

Reading-listening dictation Dictation is widely used in language teaching in various forms to enhance the language skills of reading, writing, and listening (Jia & Hew, 2022). It is proven to improve both lower-level and higher-level processes of language (Milton, 2010; Jia & Hew, 2022). However, the traditional dictation is dull and difficult, especially for low proficiency EFL learners. According to Miao (2021), reading-listening integrated dictation is effective to improve listeners' performance. When integrating reading and listening in dictation, the difficulty level of the dictation test will be reduced. In this non-traditional dictation, the first part of the text is provided. By

reading it before listening to the rest of the dictation, learners are able to get background information, relevant vocabulary and make predictions, thus performing better in listening. Futhermore, there is a need for modern dictation to be integrated with other influential tools, such as technology or other language skills, to enhance its effectiveness.

3.2.3.3 Strategy- based Instruction Approaches

The pedagogical cycle for listening instruction, developed by Larry Vandergrift (2004), is a structured approach designed to help learners improve their listening comprehension skills in a systematic and reflective way. It focuses on both TD, BU strategies and emphasizes metacognition awareness and control of one's learning processes. It also encourages discussion among students to determine appropriate strategies to solve problems in listening and thus helps learners actively engage with the listening task. It was proved to be effective in improving listening performance (Robbillos, 2023; Taghizade et al., 2022). The study by Taghizade et al. (2022) was conducted among a cohort of Iran upper-intermediate introverted EFL learners. The results indicated that metacognitive intervention was effective in improving listeners' listening performance. In addition, the EG outperformed the CG on metacognitive awareness post-test with medium effect size. The EG improved in all the sub-metacognitive awareness significantly except for mental translation.

Language users are active, creative learners with language knowledge and abilities (García & Kleifgen, 2018), translanguaging discards "English-only" approach and allows students to utilize their L1 language repertoire for understanding, generating new ideas, and serves as the initial step in promoting cognitive language fluency. It aids EFL learners to overcome the linguistic constraints in carrying out discussions needed in classroom collaborative tasks. Translanguaging with a pedagogical cycle was proved an effective instruction approach (Robillos, 2023). Participants after the intervention demonstrated significant improvements in listening comprehension test scores across various aspects, including structure, grammar, details, and vocabulary knowledge.

Self-regulation in EFL listening refers to learners' ability to manage, monitor, and control their own listening processes effectively. It empowers EFL learners to take control of their listening development, making them more effective and independent language users. Thus it was often integrated in EFL listening teaching to build up EFL learners' autonomy. Both studies by Yabukoshi (2023) and Milliner & Dimoski (2021) probed into the impact of self-regulation strategies on listening comprehension. However, they received similar negative results that there was no significant difference in listening performance gains between EG and CG.

Yabukoshi (2023) carried out a study on Japanese pre-intermediate to intermediate EFL learners. Both EG and CG were taking the listening course using the same audio files, practicing questions, checking their answers against the provided answer explanations and transcripts. In addition to that, EG was instructed to use metacognitive strategies of goal setting, task analysis, planning, time management and so on. In the reported use of strategies, the EG demonstrated significant changes. However, the advantage of the EG over the CG on the listening tests was not significant.

Milliner & Dimoski (2021) suggested that the combined use of additional listening input, strategy instruction, and metacognitive activities may be the key to improving listening comprehension. The research aims to investigate metacognitive instruction with BU and TD processing for low-proficiency Japanese EFL learners' listening comprehension and self-efficacy. Metacognitive intervention here focused on BU, TD and metacognitive strategy (MS). The research was conducted with 129 low-level EFL Japanese university students, who were divided into three groups: the STI group (strategy training + additional input), the ST group (strategy training), and the CG group. The CG group followed traditional listening instruction, while the ST group received explicit strategy training of BU and TD listening skills in addition to the traditional teaching. The STI group, on top of the strategy training, had additional listening input and were also required to keep a listening diary. There were no significant differences among the STI, ST, and CG groups in any of the listening tests (TOEIC test, listening comprehension test, cloze test), but the STI group was the only group that showed improvement in the listening cloze test and made the greatest progress on the TOEIC test. Although the STI group made significantly greater gains in the TOEIC test compared to the ST and CG groups, the CG group also showed significant improvement over the ST group. Furthermore, there were no significant differences between the STI, ST, and CG groups in the listening comprehension test and the cloze test. This suggests that, overall, the training method combining BU, TD and MS was not so effective in improving learners' listening ability as expected.

3.2.3.4 Integrated Instruction Approaches

Task-based listening training program contributes to fostering an active learning atmosphere for emphasizing learners as both information receivers and senders in listening tasks, engaging them in paired activities. It helps stimulate learners' enthusiasm for learning and enhances their listening skills through authentic peer interaction, facilitating language knowledge acquisition. Qiu & Xu (2022) tried to confirm the effectiveness of task-based listening teaching integrated with self-reflection technique. Based on the participants' listening performance after the intervention, the TSLT group (Task-supported Listening Teaching) performed significantly better than the CG group, while the adjusted mean of the TSLT + SR group (Task-supported Listening Teaching + Self-Reflection) was higher than the CG group but showed no significant difference. The TSLT group made the greatest progress after the intervention, followed by the TSLT + SR group, with the CG group showing the least improvement. This aligns with previous research on task-based language teaching, demonstrating that task-based teaching has a significant impact on listening performance. However, the integration of self-reflection skills in interactive task-based listening teaching did not produce the expected maximum effect on listening. Moreover, this study reinforces the viewpoint of Vandergrift and Goh (2012) that both unidirectional and bidirectional listening tasks are useful in second language listening classrooms.

Besides, Hamada (2022) argued that traditional shadowing activities could only enhance the ability to distinguish stress and vocabulary recognition, but they were not effective in improving phonemic recognition. In contrast, the new type of shadowing activity included three

components of attention to output, corrective feedback and explicit instruction, and emphasized detailed guidance from the teacher on phonemes, and thus enabled EFL low-proficiency learners to improve their phonemic discrimination skills.

4. Discussion

Through a systematic review of 19 peer-reviewed publications from Scopus, Science Direct, Springlink, Sage, and Emerald, this study summarized the key findings of listening research over the past five years in three areas: factors influencing listening, teaching approaches for improving listening, and computer-assisted technologies that enhance listening skills.

Research on factors affecting listening emphasizes the important role of phonological knowledge in speech decoding, making it an essential component of listening instruction. Decoding involves perceiving the auditory information, recognizing the phonetic elements, dividing the boundaries between within words, segmenting continuous speech into discrete units and interpreting the meaning conveyed by the speaker. Understanding the significance of dissecting word clusters and discerning how their internal sound structures are shaped is crucial for developing effective listening skills (Cauldwell, 2018). Decoding ability can be represented in terms of segmenting words into phonemes or dividing phrases into individual words etc. Studies by many scholars (Du, et al., 2022; Lee et al., 2020; Masrai, 2020) have confirmed the importance of these decoding processes in listening.

Listeners' ability to decode aural vocabulary plays a crucial role in determining listening success. Ke & Wang (2022) study identified the two most frequent types of decoding errors are errors in decoding unfamiliar vocabulary and errors in decoding phonologically similar words. The former decoding errors take 50% while the latter takes 31.8%. A post-test questionnaire explored potential causes for these errors. Apart from spelling errors or lack of spelling knowledge (27.16%, 14.81%, respectively), participants reported that the primary cause of errors with unfamiliar vocabulary was never heard the word before (32.1%). For errors with similar-sounding words, the main cause was confusion with homophones or words with similar phonetics (25.93%). This highlights the importance of expanding listeners' aural vocabulary as a key strategy for improving listening skills. Many scholars and educators have noted that students' reading vocabulary tends to exceed their listening vocabulary (e.g., Milton et al., 2010). Additionally, listeners need to enhance their ability to distinguish sounds, especially in authentic contexts. This is particular challenging because the pronunciation of words learned in isolation often differs from how they are pronounced in sentences, which further complicate vocabulary acquisition in listening.

Person factors have consistently been a focal point in listening research because they are aspects that individuals can to some extent control through effort. On the other hand, non-person factors, due to their uncontrollable nature, receive less attention in research but should not be overlooked. For instance, although listening in a noisy background is influenced by the level of noise, low levels of noise are acceptable and align more closely with real-life listening environments. Therefore, conducting listening training under such moderate noise conditions is deemed necessary. Fujita's study (2022) highlighted the relationship between auditory performance and individual differences in noisy environments. These findings give implications for listening training, suggesting that EFL learners should be provided with listening materials featuring background noise similar to that in real-world contexts. Otherwise, they may not be able to have a better understanding of the speech in noise.

Research on listening instruction approaches indicates that various teaching approaches can effectively enhance listeners' listening performance through their respective advantages, but they also have their limitations. Hamada's study (2022) highlighted the importance of focusing on linguistic features that were often overlooked in natural speech flow. The study by Yenkimaleki et al. (2023) emphasized teaching multiple layers of linguistic features together than addressing them separately to enhance listening skills. However, this method is resource-intensive and may not be suitable for learners who lack access to personalized training.

Pre-listening tasks (Barjesteh & Ghaseminia, 2023) and listening-reading dictation (Miao, 2021) provide learners with contextual cues, activate prior knowledge and vocabulary, and reduce the difficulty of the traditional dictation, thereby improving comprehension and engagement. Nevertheless, task-based approaches heavily rely on well-designed materials, and their effectiveness may vary across different learning contexts.

Metacognitive strategies (Robbillos, 2023; Taghizade et al., 2022) play a critical role in helping learners regulate their listening processes. However, if these strategies are integrated with too many other strategies, the impact of metacognitive strategies on performance metrics is limited. For example, Milliner & Dimoski's (2021) study showed that integrating BU, TD, and metacognitive strategies only led to slight improvements in listening performance. The same is true the other way around. Relying solely on metacognitive instruction may not be sufficient to meet the demands of listening instruction. In Yabukoshi's study (2023), self-regulation strategies instruction enhanced learners' reported use of strategies but did not consistently translate into better listening outcomes. This suggests that metacognitive instruction should be complemented by additional tools such as extended practice or motivational support.

Qiu & Xu (2022) integrated self-reflection into task-supported listening teaching as an attempt at a comprehensive teaching approach. While the task-based method significantly improved listening skills, the additional self-reflection did not yield notable extra benefits. This raises questions about how to optimally incorporate reflective practices into listening instruction.

Studies integrating computer-assisted technology in listening indicate it offers advantages over the traditional listening instruction. These technologies not only stimulate learners' interest, enhance learner autonomy (Luu et al., 2021; Vu et al., 2022), and improve learning efficiency, but also provide benefits that traditional methods lack. Beyond offering learners abundant audio and video materials, these technologies leverage innovation to deliver tailored resources, such as low-filter audio materials, enabling learners to experience the

phonetic and prosodic features of a foreign language (Luu et al., 2021). They also offer immediate feedback (Vu et al., 2022) and integrate L2 subtitles (Lee et al., 2021; Masrai, 2020; Vu et al., 2022), thus enriching the learning process.

5. Implications, Research Gaps and Recommendation for Future Studies

Research on the factors that influence listening ability of language users found that aural vocabulary knowledge, phonological knowledge and decoding ability play a great role in improving learners' listening performance. Compared with knowledge of phrases and grammar, the knowledge of aural vocabulary has a great influence on listening comprehension. The impact of metacognitive knowledge on listening is much smaller than that of the above-mentioned language factors（Du & Man, 2022）. Specifically, phonetic features and phonological knowledge are essential for listening development, regardless of whether learners are beginners or advanced. Therefore, phonetic and phonological awareness training is an indispensable component of effective listening instruction.

Current reviews on listening teaching methods show that appropriate listening tasks (Barjesteh & Ghaseminia, 2023; Miao, 2021), explicit phoneme guidance (Hamada, 2022), computer-assisted listening guidance (Luu et al. 2021; Masrai, 2020; Vu et al., 2022), metacognitive guidance (Robbillos, 2023; Taghizade et al., 2022) and comprehensive guidance (Yenkimaleki et al., 2023) can improve listeners' listening performance. Although the effectiveness of various teaching methods in improving listening performance has been demonstrated, we recognize the critical role of speech recognition and aural vocabulary knowledge in listening instruction. Therefore, it is essential to integrate phonological and linguistic knowledge with the instruction of listening strategies, balancing explicit and implicit teaching approaches. Educators should provide an appropriate amount of clear vocabulary explanations and pronunciation demonstrations to ensure learners understand what they are learning, while also fostering the development of learning strategies. This helps learners become independent and confident individuals capable of self-regulated learning.

Task design should emphasize rationality and adaptability. Listening activities often require learners to engage in multitasking. For example, learners need to listen to audio content while extracting key information, understanding the meaning, and even taking notes. If the task demands are overly complex, it can significantly increase learners' cognitive load, making it difficult for them to focus on the core objective - listening comprehension. For instance, based on a study by Miller & Dimoski (2021), although the experimental group underwent strategy training combined with additional input practice, there was no significant improvement on the learners' listening abilities. This failure might be due to the overly complex training involving the integration of metacognitive strategies, BU, and TD strategies.

Computer-aided listening learning is effective because it provides speech recognition help and error feedback to listeners by adding subtitles, real-time listening practice feedback (e.g. Hamada, 2022; Lee et al., 2021; Luu et al. 2021). It should be noted that when providing subtitles, it is necessary to distinguish the listening level and learning habits of different listeners in order to provide specific help. As demonstrated in a study by Lee et al. (2021), learners with varying levels of dependence on subtitles exhibit different levels of adaptability to them. Only by providing subtitles tailored to the needs of learners with different learning habits can their listening skills be effectively improved.

6. Conclusion

This study found that recent research in this field mainly focuses on the factors influencing listening and effective teaching interventions. In addition to non-learner factors, the factors influencing listening comprehension are predominantly related to learner variables. These include aural vocabulary knowledge, knowledge of phrases and syntax, decoding ability, and metacognitive awareness. The research focuses on listening instruction approaches, including the discrete-items approaches, task-based instruction approaches, strategy-based instruction approaches, and integrated instruction approaches. At the same time, computer-assisted listening instruction has been widely studied aiming to enhance listening skills. This approach includes various components such as vocabulary exercises with specific correction feedback, presentation in specific subtitle formats, guidance through various task forms, explicit linguistic instruction, metacognitive instruction, and integrated listening instruction. It implies that the integration of computer-assisted instruction into various teaching methods has become a prevailing trend. Summing up the above analysis, it is evident that research on learner factors influencing listening comprehension primarily focuses on auditory vocabulary, particularly on phonological knowledge. Phonological knowledge is often found to be lacking among EFL learners, and speech recognition constitutes a significant part of listening instruction. Studies have shown that addressing these areas can be highly effective (Luu et al., 2021; Yenkimaleki et al., 2023; Vu et al., 2022). In the exploration of effective instructions, researchers should pay attention to what exactly constitutes an effective instruction and how it should be implemented. For example，in the field of metacognitive instruction, whether to follow Vandergrift's five-step teaching model (Taghizade et al., 2022) or Rubin's four-step guidance method (Yabukosi 2023) remains a topic for further exploration.

Acknowledgments

Not applicable.

Authors' contributions

Lina Liu was responsible for data collection, data analysis, drafting, and revising the manuscript. Dr. Ramiza contributed to developing the research topic and reviewing the mansucript, while Dr. Wan contributed to designing the research methodology. Both Dr. Ramiza and Dr. Wan conducted the quality assessment of the articles included in this literature review. All authors read and approved the final version of the manuscript.

Funding

Not applicable.

Competing interests

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Informed consent

Obtained.

Ethics approval

The Publication Ethics Committee of the Sciedu Press.

The journal's policies adhere to the Core Practices established by the Committee on Publication Ethics (COPE).

Provenance and peer review

Not commissioned; externally double-blind peer reviewed.

Data availability statement

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

Data sharing statement

No additional data are available.

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