Iranian Journal of Applied Language Studies
Vol 10, No 2, 2018, pp. 175-208
http://ijals.usb.ac.ir

The Contribution of Lexical, Grammatical, and Propositional Knowledge Preparation to L2 Listening Comprehension

Mohammad Bagher Shabani
Assistant Professor
Imam Khomeini International University, Qazvin, Iran
mshabani@hum.ikiu.ac.ir

Ali Malmir
Corresponding author, Assistant Professor
Imam Khomeini International University, Qazvin, Iran
malmir@ hum.ikiu.ac.ir

Farzaneh Arjmand
Ph.D. Candidate
Imam Khomeini International University, Qazvin, Iran
farzaneh826@yahoo.com

Abstract

Listening comprehension is a multifaceted L2 skill and its actual mastery has proved challenging for many EFL learners (Matthews, 2018). Pre-listening supports may help us change the dire situation in developing effective listening competence. Therefore, the current study tried to examine the effect of vocabulary preparation, grammar instruction and background knowledge activation as pre-listening tasks on the listening comprehension among 95 Iranian intermediate EFL learners in three experimental groups who were randomly selected from among 142 Iranian EFL learners after administration of a paper-based TOEFL. In group A, the teacher elaborated on the difficult grammatical structures of the listening comprehension (LC) test and the students did some exercises. Group B practiced related difficult words using synonyms, antonyms, and sentence examples. In group C, some topical knowledge about the content of the LC test was given and discussed. After the treatment, a valid researcher-made LC test was given to all groups. This procedure was followed for four more listening texts and after each treatment, a valid researcher-made LC test based on the text was administered. Data analysis using one-way ANOVA and Scheffe test revealed that background knowledge activation and vocabulary preparation significantly improved learners' listening performances; however, grammar preparation did not exert a significant influence on EFL listening comprehension. These results were confirmed by the experts' attitudes in the subsequent qualitative phase of the study. These findings suggest that EFL teachers should use background knowledge activation and lexical preparation prior to the main listening tasks.

Keywords: Background Knowledge Activation, Grammar Instruction, L2 Listening Comprehension, Schemata, Scripts, Vocabulary Preparation

Received: April 2017; Accepted: December 2017

1. Introduction

Comprehending spoken English is not an easy process for most ESL/EFL learners and majority of these learners' listening abilities lag behind other language skills and sub-skills. This difficulty can be attributed to many factors among which is the dominance of the first language, less instruction about how to listen (Yeldham, 2016), less exposure to spoken English, and no training on how to use strategies (Flowerdew & Miller, 2014; Goh, 2014; Graham, Santos, & Vanderplank, 2008, 2011). Some other difficulties arise from limited vocabulary (Lee & Levine, 2018), unfamiliar topical knowledge, fast speech rates, and unfamiliar accents. All of these reasons are involved in ignoring listening research and paying less attention to this crucial language skill in L2 classrooms. Accordingly, as pointed out by Goh (2014), to assist EFL/ESL learners to promote their listening ability, L2 teachers and SLA researchers should try to understand how comprehension occurs and determine the factors that are involved in this multifaceted cognitive and psycholinguistic process.

Listening is an active process in which the language learner tries to make sense of what is said based on his own schemata and topical knowledge (Yeldham, 2016). Learners' linguistic competence also plays an important role in decoding the given information and encoding it in interactive processing with the topical knowledge of the world. Vocabulary and grammar are two components of the linguistic competence necessary for comprehending spoken language. There are many studies about the relationships between vocabulary knowledge and grammatical competence on one hand and listening comprehension on the other hand; however, there is less research regarding the effect of vocabulary preparation or grammar instruction in the pre-task phase on the listening comprehension (LC). Regarding the role of topical knowledge in listening comprehension, we can also see a lot of research on the relationship

between the two but focusing on background knowledge as a pre-listening activity and how it can help us more to understand the nature of listening comprehension is under-researched (Vandergrift, 2011; Vandergrift & Baker, 2015). Therefore, the current study was launched to investigate the effect of vocabulary preparation, grammar instruction, and background knowledge activation pre-listening tasks on Iranian EFL learners' listening comprehension.

2. Literature Review

2.1. The Nature of L2 Listening Comprehension

A considerable portion of communication time (about 45 percent) is spent to listening (Graham, 2017) and therefore, developing listening skills is an important foundation in successful language learning. Listening development can also significantly influence the growth of other L2 skills as claimed by many studies (Graham, 2017; Rost, 2013; Vandergrift, 2011; Vandergrift & Baker, 2015). According to Buck (2001, p. 114) L2 listening comprehension can be defined as the ability "to process extended samples of realistic spoken language automatically and in real time, understand the linguistic information that is unequivocally included in the text, and make whatever inferences are unambiguously implicated by the context of the passage". According to Brown and Lee (2015), listening needs complicated receptive language processing, decoding, and cognitive interpreting, necessitating the use of linguistic knowledge (e.g., vocabulary, grammar) as well as the shared knowledge of the world.

Top-down and bottom-up processing apply these knowledge sources to the language input in the trend of comprehension. For successful listening, mental representation of what has been comprehended needs flexible and adaptable

cognitive processing according to the necessitation of task demands. Listening comprehension features make it a challenging skill for language learners. First, listeners need to comprehend spoken language, it takes place in real time and is ephemeral and transient. This short-lived nature of listening has been proposed to be the main cause of L2 listeners' anxiety (Fields, 2007). The lack of the chance of reviewing the presented information as well as having control over the speed of the input makes listening comprehension a cognitively demanding skill, leading listeners attending to additional factors and therefore complicating the comprehension process (Field, 2008; Buck, 2001; Vandergrift & Goh, 2012). The transitory nature of listening also leads to sound features absent from the written language and sound deviances common in fast speech. Second, listeners are deprived of the efficacious spaces between words and the presence of features of natural fast speech including assimilation, making it perplexingly tough for L2 listeners to partition the string of speech into separate words in a virtually short time; therefore, they are forced to employ phonological knowledge to the comprehension process to break the connected speech in order to dissect meaningful unites and process them quickly.

Third, listening is characterized by the presence of a rich prosody (stress, intonation, rhythm, loudness), absent from the written language and changing listening to a more context-sensitive skill demanding more attention and leading to the complexity of listening. In order to comprehend the aural input, listeners have been proposed to rely on "bottom-up" and "top-down" processing as sources of information in bottom-up processing, comprehension takes place via the information derived directly from perceptual sources. However, in top-down processing, comprehension is achieved by relying on general knowledge and context familiarity (Vandergrift, 2011). According to Field (2004), in bottom-up processing, smaller units of information are

aggregating to constitute larger ones, contra wisely, in top-down processing, larger units affect processing and comprehension of smaller units. Segmenting the stream of sounds and decoding them into meaningful units are taking place in bottom-up processing in order to achieve comprehension while in top-down processing, prior knowledge and knowledge of context are utilized to achieve comprehension.

In empirical studies, researchers narrow down the two processes to the extent that top-down processes refer to accessing information from the sources of world knowledge, general knowledge or schematic knowledge to comprehend input (Vandergrift, 2007). Bottom-up processing in empirical studies, on the other hand, refers to the perceptual data sources such as focusing attention to linguistic data at word level (Flowerdew & Miller, 2005). Bottom-up and top-down processes rarely operate independently (Buck, 2001; Field, 2004; Vandergrift, 2007). The interaction between these two is the leading cause of listening comprehension. Empirical studies on the role of factors of L2 listening ability are intended to reveal which factors explain the amount of variability in individual differences in this ability. A more comprehensive insight into the variables that affect listening comprehension can possibly result in explaining great portion of difficulties faced by L2 learners and, therefore, informing listening instruction. Rubin (1994) enumerated five strands of influences which play a part in L2 learners' listening comprehension, including text features, task features, listeners' characteristics, interlocutor features, and process features. Compared to individual differences in reading comprehension, individual differences in listening characteristics have received little attention in related studies (Andrina et al., 2012). Listeners' characteristics which have been studied include, general language proficiency (Wang & Treffers-Daller, 2017), vocabulary knowledge (Bonk, 2000; Staehr,

2009; Vandergrift & Baker, 2015), vocabulary size (Wang & Treffers-Daller, 2017), metacognitive awareness (Graham, Santos, & Vanderplank, 2008; Vandergrift, Goh, Mareschal & Tafaghodtari, 2006), working memory and processing speed (Andringa et al., 2012).

2.2. The Role of Schema in L2 Listening Comprehension

Brown (2014) describing a schema as prearranged background knowledge which leads us to expect or foresee different dimensions in our understanding of a piece of discourse, consider the role of schematic knowledge as one of the factors affecting comprehension. Anderson (2009) contends that schema can be devised as a class of expectations once they are met by the precise information that a listener perceives a sense, message or event. The listener attempts to maintain consistency with his or her expectations and therefore, completing the gaps in available information by inference. Listening as defined by Rost (2002) is not only a mere procedure of receiving what the other interlocutor exactly articulates, rather it is a chain of interrelated processes to reconstruct and reframe the intended meaning, to exchange meaning with the other interactant and to respond and produce meaning through active engagement, rapport, and sympathy. He also points out that listening is a perplexingly multifaceted process and the listener in an online process of interpretation, matches what he or she hears with what they previously have in their mental cognitive structure. These theories emphasize schemata as a crucial constituent of listening process. Entailing construction of meaning beyond mere decoding stimulates the listener's mind to activate what is known about the world and as a result processing the aural code. The listener's background knowledge based on previous experiences inclines the listener to

presuppose some expectations with seven dimensions: speaker, listener, space, time, genre, subject, and context.

According to Brown (2014), in order to relate the new information to his or her previous experience, the listener utilizes two main principles of analogy, i.e., "things will be as they were before" and the principle of "minimal change, i.e., things are as like as possible to how they were before" (p. 212). Some researchers believe that the interactive nature of the relation between listeners' past experiences and background knowledge and the knowledge coming from the listening text led to successful listening comprehension (Brown & Lee, 2015; Change & Read, 2006; Lingzhu, 2003; Rost, 2002). Some others concluded that background knowledge facilitates learning whereas lack of background knowledge prevents comprehension (Gelhard, 2000; Vandergrift, 2004). The amount of background knowledge activated is assumed to be related to language learners' general proficiency in language listening comprehension (Field, 2004; Vandergrift, 2006). The proficient learners can revise their schema structure more capably than less proficient learners when the schema doesn't match the entering data.

2.3. The Role of Vocabulary in L2 Listening Comprehension

The important role of vocabulary knowledge in general L2 proficiency has been argued for a long time (Read, 2000). The position of vocabulary knowledge as one of the most significant predictors of L2 listening comprehension has been extensively studied in SLA (Andringa et al., 2012; Bonk, 2000; Mecartty, 2000; Pan, Tsai, Huang, & Liu, 2016; Staehr, 2009; Vandergrift & Baker, 2015). Aural word recognition and activating their knowledge of word meaning are vocabulary related processes essential in the effective use of bottom-up

processing and meaning-constructing processes for driving meaning from aural input (Macartty, 2000; Rost, 1990; Tyler, 2001; Vandergrift, 2004).

Macartty (2000) in a study examined the impacts of L2 learners' lexical and grammatical knowledge to both listening and reading comprehension. He came up with the result that unlike grammar knowledge, vocabulary knowledge emerged as a strong predictor of listening and reading abilities, with the contribution of clarifying around 25% of reading aptitude and about 14% of listening skill. In more recent studies, researchers have argued about the multidimensional nature of vocabulary construct (Daller, Milton & Treffers-Daller, 2007, Nation, 2001; Qian & Schedle, 2004; Read, 2000; Staehr, 2009). They have consensus that vocabulary knowledge should be considered at least at three dimensions of breadth, depth, and fluency. In vocabulary breadth dimension, the size of the lexicon or the number of the words whose meaning is known by the learner (Nation, 2001; Qian, 2002; Staehr, 2009) is defined while the in-depth dimension, the quality of word knowledge is considered (Qian & Schedle, 2004). Fluency aspect of vocabulary knowledge is defined as the extent to which L2 learner is able to use the words form and meaning easily and correctly.

While the aspects of vocabulary breadth have been introduced as the primary aspect of vocabulary knowledge which helps the L2 learner be a more proficient learner, it is the depth of vocabulary knowledge assumed to be the determining factor in L2 learners' success in reading and listening comprehension (Qian & Schedle, 2004). Staehr's (2009) study on the role of L2 vocabulary knowledge in L2 listening comprehension with a large sample of L2 learners uncovered that 51% of listening variance could be accounted for by L2 word knowledge; of which 49% could be described by vocabulary breadth and the residual 2% by the depth of vocabulary knowledge. Similar results were

reported by Matthews (2018) who discovered correlation coefficients of 0.54 0.6 between EFL learners' listening comprehension and their vocabulary size and depth, respectively.

A bunch of research has been conducted on comparing the contribution of vocabulary knowledge to listening and reading comprehension. Nation (2006) asserts that larger vocabulary knowledge is required for comprehending spoken than written texts in an L2. This deemphasizes the role of vocabulary in listening than in reading. Milton and Hopkins (2006), Macarthy, Mehrparvar and Rahimi (2010) and van Zeeland and Schmitt (2013) revealing additional proof about the distinctions between the lexical knowledge compulsory for listening and reading corroborated Nation's assertion. Van Zeeland and Schmitt argued that a lexical coverage of 95% is essential for effective listening comprehension. In order to reach a somewhat satisfactory L2 listening comprehension at this alleged 95% coverage, language learners should have acquired 2000-3000 most frequent word families in the target L2 (Adolphs & Schmitt, 2003; van Zeeland & Schmitt, 2013) whereas the knowledge of ate least 4000-5000 word families should be mastered to reach the aforementioned coverage in L2 reading (Nation, 2006; Laufer & Ravenhorst-Kalovski, 2010). They also contend that vocabulary knowledge contribution is a prerequisite to both L1 and L2 listening comprehension; however, there is added variation for L2 learners. The larger variation in L2 listeners' comprehension suggests their more confident encounter with unknown vocabulary. Bonk (2000) and Staehr (2009) confirm these findings and suggest that L2 listeners' weaker linguistic base is likely compensated by strategic skills and their ability to regulate L2 listening processes as well as their metacognition. Another bunch of studies in the domain of vocabulary knowledge and L2 listening ability allude the variation in central role of vocabulary knowledge at different levels of ability

(Andringa, Olsthoorn, van Beuningen, Schoonen, & Hulstijn., 2012; Bonk, 2000; Hassan 2000; Mecartty, 2000; Milton, 2010, 2013; Milton & Hopkins, 2006; Milton, Wade & Hopkines, 2010; Staehr, 2007, 2008, 2009). Hassan (2000) in a study used a questionnaire to investigate factors involved in L2 listening comprehension hurdles in intermediate Arabic EFL learners and found that majority of her participants reported problem in predicting a missing word or phrase. Hassan attributed this difficulty to limited vocabulary knowledge or word-by-word processing approaches practiced by EFL learners.

As discussed in the presented literature, more research through employing theoretically and operationally sound procedures are needed to uncover the role of vocabulary, grammar, and background knowledge in L2 listening comprehension and their effectiveness in this regard. Furthermore, comparing the contributions of these types of preparations/knowledge can broaden our insights about L2 listening comprehension and help to promote learners' listening through manipulating these effectual types of knowledge. Accordingly, the current research examined the role of vocabulary preparation, grammar instruction and background knowledge activation as pre-listening activities on Iranian EFL learners' listening comprehension through a mixed-method study. The three research questions that frame this study are as follows:

1) Do varying types of listening pre-tasks i.e. vocabulary preparation, grammar instruction, and background knowledge activation make any significant differences to EFL learners' listening comprehension?
2) What are Iranian EFL researchers'/professors' attitudes (with L2 listening expertise) toward the effects of vocabulary preparation, grammar instruction and background knowledge activation on EFL learners' listening comprehension?

3) Do the findings obtained through the experiment with learners (quantitative results) and the experts' attitudes (qualitative results) converge or diverge?

3. Method

3.1. Participants

A total of 95 Iranian EFL learners, aging from 18 to 25 took part in the first phase, i.e., the quantitative phase, of the study. These participants were selected from an initial sample of 142 EFL students majoring in English Language Translation at Payame Noor University of Kermanshah on the basis of their performances on a paper-based TOEFL test. The learners' answers were corrected based on the rubrics given for scoring TOEFL test (provided by EST website) by the researchers with the help of a professional TOEFL rater. Those learners who scored above the ±1.5 standard deviations around the mean were selected to participate in the current study. Most of the students were juniors and some of them were seniors. Thirty-three of the participants were males and 65 of them were females. Their mother tongues were either Persian or Kurdish. Let it be noted that the participants of the current study came from various social and economic backgrounds. Based on their scores on the administered TOEFL test, their GPA and previous semesters report cards, the leaners could be considered upper-intermediate EFL learners. Ten Iranian university professors who had PhD in applied linguistics and were teaching at Iranian state universities and had previously published at least two papers in high ranking journals about L2 listening comprehension were purposefully chosen for the subsequent qualitative phase of the study. Their age ranged from 38 to 67 and they had from 9 to 28 years of language teaching experience. Seven of these applied linguists were males and three were females.

3.2. Instruments

The instruments employed in this research were a paper-based TOEFL test, five listening comprehension tests (labeled as LC_1 to LC_5), and oral interview procedure. The first two tools were used for collecting quantitative data and the third one was employed for gathering qualitative data. The details of each instrument are given here.

3.2.1. Paper-Based TOEFL test

A Paper-Based TOEFL test was used for participant selection. The test contained 50 listening items, 40 structure, and written expression items, and 50 reading comprehension items. The allocated time for completing these 140 multiple choice PBT TOEFL was one hour and twenty minutes. The Writing section (Test of Written English) required the participants to write an essay about one topic in 30 minutes. The students' performances were scored on the basis of the rubrics proposed for scoring TOEFL test (suggested by EST website, 2018) by the researchers with the assistance of a professional TOEFL rater in Iran. Those students who got scores at ±1.5 SD around the mean (M= 521.50) were chosen for the purposes of the present research.

3.2.2. The Listening Comprehension (LC) Tests

Five listening comprehension tests each containing 20 multiple-choice items were constructed for measuring the participants' listening comprehension of five listening audio tracks. These listening comprehension tests were developed and piloted by the researchers to check their validity and reliability. Participants had not listened to these audio files before. The listening tracks had been recorded by a native speaker with a formal American accent. These

texts were five two-page MP3 narratives that cited a short story: Balto, Sybil Ludington, Staircase, Code, and Four Chaplains. Each listening track was a 650 to 680-word narrative. The readability formula, cognitive, and linguistic analysis of the text revealed that the texts were suitable for upper-intermediate EFL learners. The obtained reliability indices for these researcher-made listening comprehension tests in the pilot study were 80.2, 79.23, 84.45, 81.22, and 82.94, respectively. These five LC tests were revised after they were administered to a similar sample of 31 upper-intermediate learners at Payame Noor University of Hamedan. All the needed statistics including item discrimination (ID), item facility (IF), choice distribution, and item reliability were checked and the necessary modifications were incorporated.

3.2.2. Semi-structured Oral Interview

The semi-structured oral interview procedure was utilized for the qualitative inquiry into the experts' views about the importance of the three components of L2 listening that were the target of analysis and experimentation in the present research. The researchers interviewed 10 Iranian professors who were experts and researchers interested in L2 listening comprehension. The researchers traveled to 7 Iranian cities for conducting these oral interviews. The whole interviews were audio-recorded with the permission given by the interviewees. The ten participants were asked two open-ended questions:

1. Which type of these pre-listening tasks (vocabulary preparation, grammar instruction, and background knowledge activation) can enhance L2 listening comprehension? Why?
2. How important are these pre-listening tasks for enhancing L2 listening comprehension?

In order to gather more insightful comments and to delve deeper into the role of three target components in L2 listening comprehension, no time limit was imposed. Another consideration for such no-time-limit decision was the high respect for the honorable participants as nationally known university professors. However, these interviews lasted from 20 to 40 minutes. As asserted by Creswell (2014), the design, timing, setting, and combining the two phases in any mixed-method design should be justifiable, rational, and well-planned to be a truly mixed-method approach and to broaden our insight by combining our interpretation of the various dimensions of a very complex process as the listening skill is. Accordingly, the two questions were posed to elicit participants' attitudes about the main question in the larger previous quantitative phase. In fact, the quantitative results were to either support or refute the dependability of the answers found for previous phase items.

3.3. Data Collection Procedure

There were three experimental groups (Groups A, B, C) in the first phase of the study. In group A, the teacher elaborated on the difficult grammatical structures of the five LC tests and the students did some exercises based on the elaborated grammatical structures. The researcher's experience and the pilot study determined which grammatical points were to be practiced. Group B was given the list of vocabulary used in the listening test in a session before the administration of the related listening comprehension (LC) tests and the synonyms and meanings of these words were discussed in class and the students were asked to use the words in their own constructed sentences. The vocabulary items chosen for classroom practice contained proportionate words from the different parts of speech based on the pilot study conducted in the outset. In group C, some background knowledge about the content of each of

the five LC tests was given to the learners in a cooperative discussion with learners. Of course, the teacher didn't talk about the content of the LC tests directly. The preparations were done only for one session (about 90 minutes). The next session, a teacher-made listening comprehension post-test ($LC_{1)}$ was given to the learners in all three groups to check the differences in their performances. This type of treatment was repeated four more times for four American English listening audio tracks during the educational semester.

In the second phase of the current study, the researchers collected the qualitative data through semi-structured oral interviews conducted with 10 experts in L2 listening comprehension. The participants were asked two questions about the role and weight of vocabulary, grammar, and background knowledge activation in L2 listening comprehension. The interviewees' answers were audio-recorded by their permission for further examination. The data collection was done in person by the researchers. Transcribing, coding, and sorting data were conducted using MAXQDA.

MAXQDA is a software program that helps people conduct computer-assisted qualitative research and mixed-methods studies, text analyses, and multimedia investigations in all humanities and social sciences. Its practicality and validity have been reported by many researchers all over the world (e.g., Creswell, 2014; Denzin & Lincoln, 2013; Seidman, 2006; Roulston, 2010). MAXQDA has many unique capabilities including receiving input in the form of text documents, sorting, reading, writing, editing, and coding the data, paraphrasing texts, finding links between different parts of a text, and permitting code combinations and group comparisons (Creswell, 2014).

The current study used the 2018 version that has diverse capabilities. The software helped the researcher in three ways; first, in transcribing the data and changing the audio files into written text and second, in coding all the elicited

qualitative data, and finally by sorting the data based on their content similarities and shared themes. The software also aided in comparing the similar content chunks in different parts of the whole transcription elicited from 10 participants. MAXQDA (version 2018) allowed for searching and tagging the intended keywords and also for summarizing the rather lengthy oral interviews into a more coherent and representative gist for each participants' answers.

3.4. Research Design

The current research utilized a sequential explanatory mixed-method design. As asserted by Creswell (2014), in sequential explanatory design "the two forms of data are separate but connected" (p. 211). No explicit theoretical lens was followed in the data collection procedure. Quantitative data were gathered first in the main larger study from three experimental groups who were selected based on random selection and received the intended treatments. Then, the qualitative data was sought in a subsequent smaller study. The purpose of the qualitative phase was to examine if the results of the oral interview with the listening experts confirm or contradict the results of the major quantitative phase. The final interpretation of the results of the study was based on the two types of data analyses carried out in the two involved stages.

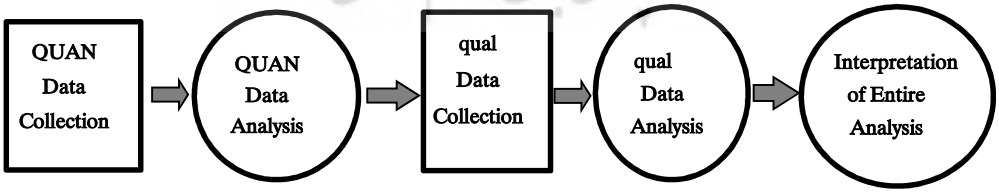

Figure 1. *Sequential Explanatory Mixed Method Design (Adapted From Creswell, 2014)*

4. Results and Discussion

4.1. Quantitative Results

A total of 142 Iranian EFL students studying English Language Translation at Payame Noor University of Kermanshah took part in this study. A paper-based TOEFL was administered to these learners. The descriptive statistics provided by the SPSS program uncovered that the lowest and the highest scores were 442 and 623, respectively. The mean score was 521.05 with a standard deviation of 56.80

Table 1. *Descriptive Statistics for the Paper-Based TOEFL Test*

N	Mean	SD	min	max
142	521.05	56.80	442	623

Ninety-five learners whose scores were ±1.5 SD around the mean were selected and randomly assigned into three experimental groups. Based on their scores on the TOEFL test, most of these selected learners could be assumed to be upper-intermediate EFL learners. The descriptive statistics for performances of all of the three groups have been given in Table 2.

Table 2. *Descriptive Statistics for Performances of all Groups on the Five LC Tests*

Type of Pre-listening Preparation		N	Mean	Std. Deviation	Std. Error	Min	Max
LC_1	Group A-grammar	30	11.83	2.506	.458	7	17
(balto)	Group B-vocabulary	33	13.76	2.319	.404	9	18
	Group C-background knowledge	32	14.81	1.804	.319	10	19
	Total	95	13.51	2.517	.258	7	19
LC_2	Group A-grammar	30	10.90	2.564	.468	6	16
(Sybil	Group B-vocabulary	33	12.91	2.227	.388	9	17
Ludington)	Group C-background knowledge	32	14.13	1.930	.341	9	18
	Total	95	12.68	2.586	.265	6	18
LC_3	Group A-grammar	30	10.00	2.289	.418	7	15
(staircase)	Group B-vocabulary	33	11.79	2.219	.386	8	16
	Group C-background knowledge	32	12.72	1.727	.305	8	17
	Total	95	11.54	2.351	.241	7	17
LC_4	Group A-grammar	30	11.67	1.936	.353	9	16
(code)	Group B-vocabulary	33	13.18	2.083	.363	9	17
	Group C-background knowledge	32	14.25	1.984	.351	9	17
	Total	95	13.06	2.245	.230	9	17
LC_5	Group A-grammar	30	10.30	2.103	.384	7	15
(four	Group B-vocabulary	33	11.85	2.181	.380	8	16
chaplains)	Group C-background knowledge	32	12.56	1.740	.308	9	17
	Total	95	11.60	2.204	.226	7	17

The mean scores are greater for group C in (background knowledge activation treatment) than other groups across the five LC tests. Group B who received vocabulary preparation has the second-highest scores and learners in group A (grammar preparation) have acquired the least mean scores ($M_A < M_B < M_{C)}$. The following figure shows the differences between the performances of the study groups in a vivid way.

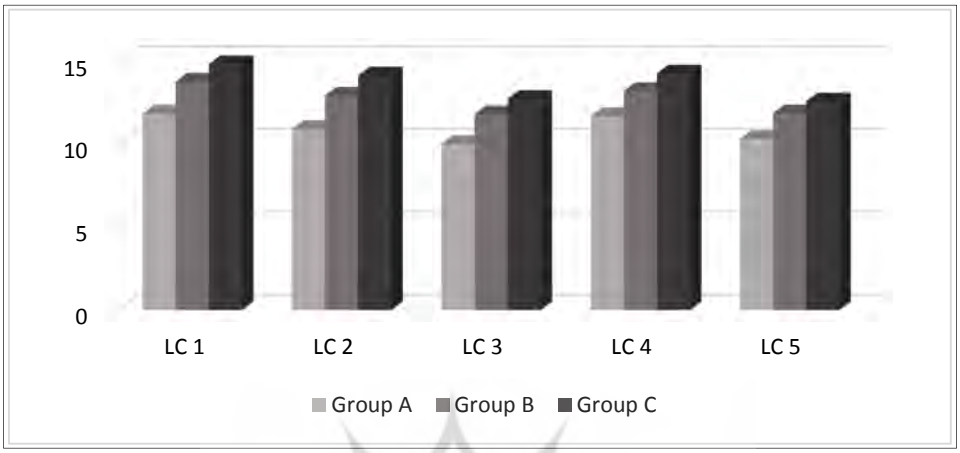

Figure 1. *Performances of all groups on LC_1, LC_2, LC_3, LC_4, and LC_5*

In order to check if such differences are statistically significant or not, a one-way AVOVA was applied the results of which are presented in Table 3.

Table 3. *One Way-ANOVA for the Performances of all Study Groups on the Five LC Tests*

		Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
LC_1 (balto)	Between Groups	140.645	2	70.323	14.216	.000	.236
	Within Groups	455.102	92	4.947			
	Total	595.747	94				
LC_2 (Sybil Ludington)	Between Groups	163.599	2	81.800	16.187	.000	.260
	Within Groups	464.927	92	5.054			
	Total	628.526	94				
LC_3 (staircase)	Between Groups	117.637	2	58.819	13.462	.000	.226
	Within Groups	401.984	92	4.369			
	Total	519.621	94				
LC_4 (code)	Between Groups	104.045	2	52.023	12.950	.000	.220
	Within Groups	369.576	92	4.017			
	Total	473.621	94				
LC_5 (four chaplains)	Between Groups	82.383	2	41.191	10.121	.000	.180
	Within Groups	374.417	92	4.070			
	Total	456.800	94				

There was a statistically significant difference between groups as determined by one-way across the five applied LC1 test (F (2,92)=14.216, p<.05, partial η^2=.236), LC2 test (F (2,92)=16.187, p <.05, partial η^2= .260), LC3 test (F (2,92)=13.462, p<.05, partial η^2=.226), LC4 test (F (2,92)=12.950, p<.05, partial η^2=.220), LC5 test (F (2,92)=10.121, p<.05, partial η^2=.180), representing moderate effect sizes. Accordingly, it can be concluded that varying types of preparation i.e. vocabulary, grammar, and background knowledge preparations make significant differences to Iranian EFL learners' listening comprehension. In order to check which groups performed significantly different from other two groups, the Scheffe test as a robust post hoc test was run the results of which is displayed in Table 4.

Table 4.*Multiple Comparisons Using Scheffe Test for Study Groups' Performers on the LC Tests*

	(I) Groups	(J) Groups	Mean Difference (I-J)	Std. Error	Sig.
LC_1	Group A-grammar	Group B-vocabulary	-1.924*	.561	.004
		Group C-background knowledge	-2.979*	.565	.000
	Group B-vocabulary	Group C-background knowledge	-1.055	.552	.167
LC_2	Group A-grammar	Group B-vocabulary	-2.009*	.567	.003
		Group C-background knowledge	-3.225*	.571	.000
	Group B-vocabulary	Group C-background knowledge	-1.216	.558	.099
LC_3	Group A-grammar	Group B-vocabulary	-1.788*	.527	.004
		Group C-background knowledge	-2.719*	.531	.000
	Group B-vocabulary	Group C-background knowledge	-.931	.519	.205
LC_4	Group A-grammar	Group B-vocabulary	-1.515*	.506	.014
		Group C-background knowledge	-2.583*	.509	.000
	Group B-vocabulary	Group C-background knowledge	-1.068	.497	.105
LC_5	Group A-grammar	Group B-vocabulary	-1.548*	.509	.012
		Group C-background knowledge	-2.262*	.513	.000
	Group B-vocabulary	Group C-background knowledge	-.714	.501	.366

*. The mean difference is significant at the P < .05 level.

As depicted in this table, the differences between the mean scores for comparison of Groups A and B and Groups A and C are significant ($p<.05$). But the difference between the mean scores for the comparison of groups B and C is not significant ($p>.05$). Accordingly, it can be concluded that in groups B and C which vocabulary preparation and background knowledge preparation have been done, students performed better on the Listening Comprehension (LC) tests compared with those learners in group A who practiced difficult grammatical structures of the related LC tests. Also, there is an apparent difference between the mean scores for comparison of Groups B and C in favor of Group C, such a difference was not; however, statistically significant.

4.2. Qualitative Results

The data gathered and audio-recorded through oral interviews were meticulously listened to several times, transcribed with the help of MAXQDA software, and then codified based on their theme similarities. These elicited themes were in fact, codified and categorized by the two researchers after demonstrating a high intercoder reliability index calculated through Kripendof's alpha. Cohen's kappa ($\varkappa=.82$, 95% CI, .671 to .923, $p<.05$) and Krippendorff's Alpha (Kalpha=.83 95% CI, .772 to .951, $p<.05$) were calculated employing SPSS and ReCal programs, respectively to establish the inter-rater consistency among the two raters' judgments. Cohen's kappa value of .82 and Krippendorff's Alpha of .83 indicated a strong and dependable agreement (Hallgren, 2012, Hayes, 2007) between two raters' subjective judgments.

All participants reported that vocabulary preparation and schematic activation were more effective listening pre-tasks than grammar instruction.

Seven participants pointed out that activating the related background knowledge was the strongest listening pre-task; however, three other participants gave their support to the priority of lexical preparation, arguing that vocabulary preparation plays a duel role in L2 listening comprehension by both previewing the words and activating the potential background knowledge these words encapsulate. Dr. Aryan (a pseudonym), for example, asserted that "*vocabulary preparation is the best valid listening pre-task because you can activate ample semantic knowledge and meaning chunks, i.e., inherent scripts and schemata, in the shortest possible time*". Another participant, Dr. Samani (a pseudonym), argued that "*single words encompass two modules: semantic knowledge and the relevant world knowledge attributed to the words during their concept formation in the L2; therefore, vocabulary preparation is a substantially more effective pre-task than just schematic preparation that can include many less related words as well.*"

Regarding the role of grammar preparation, participants asserted that being aware of the grammatical structures of the listening text is definitely a worthwhile knowledge and aids L2 listening comprehension but such knowledge can be effective in the long term not in short period instructional courses. Dr. Shadram (a pseudonym), also claimed that "*knowing the difficult structures is an advantage for learners engaging with L2 listening comprehension, but such knowledge cannot act alone. Grammar is a from-oriented glue but the main ingredients are still words and the related schemata.*"Another participant mentioned that "*…grammar knowledge should be adequate or at the threshold level for listening comprehension to happen; but without knowledge of words and the topic of listening, such grammar knowledge cannot help much unless in cases when grammar interacts very*

closely with the meanings such as tense structures or the sentence structure itself."

Yet two other participants commented that these three listening pre-tasks cooperate with each other and with many more cognitive, memory, and contextual factors to help an L2 learner comprehend oral speech in the target language. They asserted that it is better to use a well-balanced combination of all these pre-listening preparations in L1 listening class to endorse learners' listening skill. The effectiveness degree of these pre-tasks depends on the nature of the listening topic, the number, and complexity of the linguistic, cognitive, psycholinguistic factors, and the various pragmatic and discoursal features.

The second question in the oral interviews asked about how the mentioned pre-listening preparations may influence L2 listening comprehension. Some of the participants provided abstract linguistic answers whereas others resorted to some cognitive and psycholinguistic replies. For instance, an interviewee told that "*linguistically, listening comprehension takes place based on the activation of background knowledge stored as schemata and scripts in the mind of the listener and its constant dynamic interaction with the meanings presented in the form of words. Grammar is also the force that attaches these words, multi-word meaning chunks, and even larger meaning carrying discoursal units such as paragraphs and texts. However, we don't know what are the exact phenomena and processes within the learner's brain and memory from a psycholinguistic and neurolinguistic point of view.*" Some other the participants also presented such an unorthodox view about the mechanism of interaction been various knowledge modules in L2 listening.

The third research question postulated by the current investigation aimed at checking whether the results of the qualitative and quantitative phases

converged or diverged. Both the quantitative results of the study experiment with Iranian EFL learners and the qualitative judgments given by L2 listening comprehension experts converged by assigning a more powerful role for activating background knowledge about the topic of the listening in enhancing L2 learners' listening performances. Both phases of the current mix-method study divulged that vocabulary instruction was also a significant factor that could support better L2 listening comprehension though in a lower degree compared with schemata activation. However, contrary to the results of the quantitative phase of the study about the insignificant part that grammar pre-plays in improving learners' listening performance, in the quantitative results elicited from experts advocated a more important role for instruction. They also asserted that the three types of pre-listening supports should have a logical balance in order to yield better gains in L2 listening performance.

4.3. Discussion

The data analysis using both quantitative and qualitative data revealed that vocabulary preparation and background knowledge activation had significantly better effects on L2 listening comprehension performance among EFL learners compared with grammar preparation. Based on the data analysis, it was found that learners in Group C who received background knowledge activation tasks prior to the listening tests, had the greatest achievement in their listening comprehension. Group B which received vocabulary preparation had the second highest performance. The least achievement of all the groups was that of group A in which the students practiced the difficult grammatical structures of the listening comprehension tests.

Though, the results of both larger quantities phase and the smaller qualitative phase of the study converged for the effectiveness of background

knowledge activation and related vocabulary instruction but not the grammar preparation, the results of the two phases did contradict about the difference between the effect of background knowledge activation and related vocabulary instruction on L2 listening performance. The results of the quantitative data analysis showed no statistically significant difference between the two though the mean scores for the perfumes of learners in Group C who received schemata activation were a little greater than of the mean scores attained by their counterparts who received vocabulary instruction in Group B. The qualitative data analysis; however, revealed that activating background knowledge was more effective than vocabulary instruction in enhancing L2 learners' listening performance. The interviewed L2 listening experts reported that activating background knowledge and the related scripts and schemata exerts a more substantial impact compared with just teaching the challenging words encountered in the listening tests.

Another difference between the quantitative and qualitative results was about the role of grammar preparation as a listening pre-task plays in L2 listening performance. The quantitative data analysis only disclosed that grammar was less effective than other types of the used treatments. But, qualitative data analysis showed that grammar had a more effective role in attaching different chunks of meanings in the formation of sentences that encompasses the shared knowledge of the world and vocabulary-related packages, i.e. schemata and scripts. The qualitative results also pointed to the centrality of a holistic view about the joint operation mechanisms of grammar, vocabulary, and background knowledge preparations in the process of L2 listening comprehension beside many other cognitive and mental processes which has been supported by many theories about the nature of L2 listening as argued by many experts (e.g. Field, 2008; Goh, 2014; Vandergrift, 2006, 2011).

In order to justify these findings, we should say that as mentioned by Vandergrift and Baker (2015), meaning and semantic aspects of listening comprehension are more important for better comprehension than the formal aspects such as grammatical structures which are used to expresses those meanings and semantic aspects. This means that form of the language is at the service of the function and meaning, that function and meanings are primary and formal aspects are secondary, that meaning is recreated by the interaction of the background knowledge within the mind of the listener and the semantic chunks which are available in the listening comprehension text, and that grammar is just a device which provides different shapes in which meanings are to be presented (Flowerdew & Miller, 2005). Accordingly, the better performance of groups B band and C can be related to these facts and that vocabulary preparation and background knowledge activation target the real meanings which are presented in the text and therefore the learners in these two groups were more prepared to understand the listening tracks better than group A in which no meaning and previous knowledge were activated.

In recent years, vocabulary and lexical chunks have been paid more attention and it has been claimed that vocabulary plays a central role in language production and language comprehension (van Zeeland & Schmitt, 2013). Nowadays, many theories of language learning are talking about the important role of collocations, lexical items, and multiple word units. Even Chomsky (1993, cited in Richards & Rodgers, 2014) as the father of generative linguistics and has recently adopted a lexicon-is-prime position in his Minimalist Linguistic Theory and has asserted that the syntax and the grammar of the language can be projected through its lexicon. In fact, the vocabulary of the language includes most of the structural, semantic, functional, and pragmatic components of the language. In addition, vocabulary preparation

can activate a lot of structural, semantic, functional, pragmatic, and contextual elements especially when the activated words have the kind of meaningful situational relationship and are related to a specific context. In such contexts focusing on some related words seeking to convey a general meaning can activate a lot of the schemata which can help the language learner to understand a text better.

Findings of this study are consistent with results uncovered by some previous studies (e.g., Bonk, 200; Cahng & Read, 2006; Pan et al., 2016; Stahr, 2009). Cahng and Read (2006), for example, studied the effect of different types of listening support including previewing the test questions, input repetition, background knowledge activation, and vocabulary preparation on Taiwanese EFL learners' listening performance. They found that the most significant type of support was background knowledge information about the topic of listening and activation of the related schemata. They also reported vocabulary instruction as a less effective support compared with providing background information about the topic.

Pan et al. (2016) scrutinized the efficiency of expanded vocabulary-instruction (including a greater number of single words and multi-word expressions) vs. an unexpanded vocabulary instruction (single words only) on EFL learners' listening scores on the Test of English for International Communication (TOEIC). They found that both types of instruction promoted learners' listening comprehension; however, expanded vocabulary support significantly helped learners gain higher scores but the limited vocabulary support had lesser impact. Bonk's (2000) study also revealed that higher L2 listening comprehension performance significantly correlated with higher familiarity with the listening text lexis among Japanese EFL learners. Likewise, Stahr (2009) investigated the relationship between 115 Danish advanced EFL

learners' L2 vocabulary size and their listening performance and reported a significant correlation of .70, indicating a strong association between the two aforementioned variables.

van Zeeland and Schmitt (2013) also studied the role of vocabulary coverage in L2 listening comprehension for native and nonnative learners of English as an L2 and reported that majority of the native and non-native learners could sufficiently understand the spoken scripts with only 90 percent of vocabulary coverage, though the non-native participants displayed large difference at this coverage level. The chief deduction is a significant impact of knowing the words on comprehending a listening text. Nations' (2006) study also confirmed the centrality of vocabulary coverage in enhancing L2 learners' reading and listening performance. van Zeeland (2013) also supported the reciprocal relationship between L2 vocabulary knowledge and listening comprehension by asserting that "vocabulary knowledge is a prerequisite for listening comprehension, and listening can serve as a useful source for vocabulary acquisition" (p. 2).

Not all previous studies have confirmed the findings of the current investigation. Chang (2007), for example, examined the effect of vocabulary instruction on L2 listening comprehension, self-assurance and strategy usage, reporting that permitting the L2 learners to preview and practice the words that appear in a listening test before the test administration could foster L2 learners' vocabulary development and confidence but not their listening comprehension. She argued that listening comprehension is a multifaceted cognitive process that demands the simultaneous interaction of many abilities one of which is vocabulary knowledge but its influence mechanism and impact is not understood alone.

5. Conclusions and Implications

The present study came to four main conclusions based on the joint interpretation of the results obtained from the quantitative and qualitative phases. First, providing background knowledge about the topic of listening and teaching the lexis significantly contributed to EFL learners' listening achievement. Second, activating background knowledge was judged to be the best type of pre-listening preparation by L2 listening experts though it did not a significant effect compared with the first type of preparation in the quantitative phase of the present research. Third, grammar preparation was not a significant type of pre-listening support for enhancing L2 listening comprehension in the short term; however, it is strong indirect support in the long turn. Fourth, the relationship among these three types of pre-listening preparations should not be viewed various simplistic and linear; rather more insightful and well-balanced combinations of these three types of support should be sought and planned to enhance L2 listening comprehension.

The findings of the current study can have some practical implications for language practitioners, language learners, and language researchers regarding L2 listening comprehension, its subcomponents, and the way it can be taught. Language teachers can help their students comprehend a text better by activating background knowledge and the related schemata prior to the listening comprehension tasks. Finding and practicing the difficult vocabulary which appears in the listening text is very helpful for comprehending the text. In fact, teachers can activate as much as background knowledge and vocabulary before the listening tasks.

Unquestionably, findings of this study cannot be completely generalized to other EFL contexts and more studies with more learners from different EFL contexts are required to make more cogent claims about the role of

grammatical preparation, vocabulary instruction, and background knowledge activation in L2 listening comprehension. Especially more detailed studies should be done on the potential effectiveness of the different components of listening comprehension, various dimensions of these components, and how they interact during L2 listening comprehension.

References

Adolphs, S., & Schmitt, N. (2003). Lexical coverage of spoken discourse. *Applied Linguistics, 24*(4), 425–438.

Anderson, J. R. (2009). *Cognitive psychology and its implications* (7th ed.). New York: W.H. Freeman.

Andringa, S., Olsthoorn, N., van Beuningen, C., Schoonen, R., & Hulstijn, J. (2012). Determinants of success in native and non-native listening comprehension: An individual differences approach. *Language Learning, 62*(1), 49–78.

Bonk, W. (2000). Second language lexical knowledge and listening comprehension. *International Journal of Listening, 14,* 14–31.

Brown, H. D. (2014). *Principles of language learning and teaching* (6th ed.). New York: Pearson Education ESL.

Brown, H. D., & Lee, H. (2015). *Teaching by principles: An interactive approach to language pedagogy (4th ed.).* New York: Pearson Education.

Buck, G. (2001). *Assessing listening*. Cambridge: Cambridge University Press.

Chang, A. C. (2007). The impact of vocabulary preparation on L2 listening comprehension, confidence and strategy use, *System, 35*(4), 534–550.

Chang, A., & Read, J. (2006). The effects of listening support on the listening performance of EFL learners. *TESOL Quarterly, 40*(2), 375–397.

Daller, H., Milton, J., & Treffers-Daller, J. (2007). Editors' introduction. In H. Daller, J. Milton, & J. Treffers-Daller (Eds.), *Modelling and assessing vocabulary knowledge* (pp. 79–92). Cambridge: Cambridge University Press.

Denzin, N. K., & Lincoln, Y. S. (2013). *Strategies of qualitative inquiry* (4th ed.). Los Angeles, CA: Sage.

Field, J. (2004). An insight into listeners' problems: Too much bottom-up or too much top-down? *System*, *32*(3), 363–377.

Field, J. (2008). *Listening in the language classroom.* Cambridge: Cambridge University Press.

Flowerdew, J. (Ed.). (1994). *Academic listening: Research perspectives*. Cambridge: Cambridge University Press.

Flowerdew, J., & Miller, L. (2005). *Second language listening: Theory and practice*. Cambridge: Cambridge University Press.

Flowerdew, J., & Miller, L. (2014). *Dimensions of academic listening*. In M. Celce Murcia, D. M. Brinton, & M. Snow (Eds.), *Teaching English as a second or foreign language* (4th ed.) (pp. 90–103). Boston: Heinle.

Gebhard, J. (2000). *Teaching English as a foreign or second language: A teacher self-development and methodology Guide.* Ann Arbor: The University of Michigan Press.

Goh, C. M. (2014). Second language listening comprehension: Process and pedagogy. In M. Celce Murcia, D. M. Brinton, & M. Snow (Eds.), *Teaching English as a second or foreign language* (4th ed.) (pp. 72–89). Boston: Heinle.

Graham, S., Santos, D., & Vanderplank, R. (2008). Strategy clusters and sources of knowledge in French L2 listening comprehension. *Innovation in Language Learning and Teaching, 4,* 1-20.

Graham, S., Santos, D., & Vanderplank, R. (2011). Exploring the relationship between listening development and strategy use. *Language Teaching Research, 15*(4), 435-456.

Hallgren, K. A. (2012). Computing inter-rater reliability for observational data: An overview and tutorial. *Tutor Quant Methods Psychol, 8*(1), 23–24.

Hasan, A. (2000). Learners' perceptions of listening comprehension problems. *Language, Culture and Curriculum, 13*(2), 137–153.

Hayes, A. (2007). Krippendorff K: Answering the call for a standard reliability measure for coding data. *Common Methods Measures, 1*(1), 77–89.

Laufer, B., & Ravenhorst-Kalovski, G. C. (2010). Lexical threshold revisited: Lexical text coverage, learners' vocabulary size and reading comprehension. *Reading in a Foreign Language, 22*(1), 15–30.

Matthews, J. (2018). Vocabulary for listening: Emerging evidence for high and mid-frequency vocabulary knowledge. *System, 72*, 23–36.

Mecartty, F. (2000). Lexical and grammatical knowledge in reading and listening comprehension by foreign language learners of Spanish. *Applied Language Learning, 11*, 323–348.

Milton, J. (2010). The development of vocabulary breadth across the CEFR levels. In I. Bartning, M. Martin, & I. Vedder (Eds.), *Communicative proficiency and linguistic development*: *Intersections between SLA* and *language testing research* (pp. 211–232). *Eurosla* Monographs Series 1. Retrieved from http://eurosla.org/monographs/ EM01/ EM01 home. html.

Milton, J. (2013). Measuring the contribution of vocabulary knowledge to proficiency in the four skills. In C. Bardel, C. Lindqvist, & B. Laufer (Eds.), *L2 vocabulary acquisition*, *knowledge* and *use*: *New perspectives* on *assessment* and *corpus analysis* (pp. 57-78). Eurosla Monographs Series, 2. http://eurosla.org/monographs/ EM01/ EM01 home. html.

Milton, J., & Hopkins, N. (2006). Comparing phonological and orthographic vocabulary size: Do vocabulary tests underestimate the knowledge of some learners. *The Canadian Modern Language Review*, *63*(1), 127–147.

Milton, J., Wade, J., & Hopkins, N. (2010). Aural word recognition and oral competence in a foreign language. In R. Chacón-Beltrán, C. Abello-Contesse, M. Torreblanca-López, & M. López-Jiménez (Eds.), *Further insights into non-native vocabulary teaching and learning* (pp. 83–98). Clevedon: Multilingual Matters.

Nation, I. S. P. (2001). *Learning vocabulary in another Language.* Cambridge: Cambridge University Press.

Nation, I. S. P. (2006). How large a vocabulary is needed for reading and listening?. *Canadian Modern Language Review*, *63*(1), 59–82.

Pan, Y., Tsai, T., Huang, Y., Liu, D. (2016). Effects of expanded vocabulary support on L2 listening comprehension. *Language Teaching Research*, *16*(1), 1–19.

Qian, D. D. (2002). Investigating the relationship between vocabulary knowledge and academic reading performance: An assessment perspective. *Language learning*, *52*(3), 513–536.

Qian, D., & Schedle, M. (2004). Evaluation of an in depth vocabulary knowledge measure for assessing reading performance. *Language Testing, 21*(1), 28–52.

Read, J. (2000). *Assessing vocabulary.* Cambridge: Cambridge University Press.

Richards, J.C., & Rodgers, T. (2014). *Approaches and methods in language teaching* (3rd ed.). Cambridge: Cambridge University Press.

Rost, M. (2002). *Teaching and researching listening*. London, UK: Longman.

Rost, M. (2013). *Teaching and researching: Listening*. Rutledge.

Roulston, K. (2010). *Reflective interviewing: A guide to theory and practice*. Los Angeles, CA: Sage.

Rubin, J. (1994). A review of second language listening comprehension research. *The Modern Language Journal, 78*(2), 199–217.

Seidman, I. (2006). *Interviewing as qualitative research: A guide for researchers in education and the social sciences.* New York, NY: Teachers College Press.

Staehr, L. S. (2007). *The relationship between vocabulary knowledge and listening comprehension in English as a foreign language*. Copenhagen Business School.

Staehr, L. S. (2008). Vocabulary size and the skills of reading, listening and writing. *Language Learning Journal*, *36*(2), 139–152.

Staehr, L. S. (2009). Vocabulary knowledge and advanced listening comprehension in English as a foreign language. *Studies in Second Language Acquisition*, *31*(4), 577–607.

Tyler, M. D. (2001). Resource consumption as a function of topic knowledge in nonnative and native comprehension. *Language Learning*, *51*(2), 257–280.

Vandergrift, L. (2004). Learning to listen or listening to learn. *Annual Review of Applied Linguistics, 24*, 3–25.

Vandergrift, L. (2006). Second language listening: listening ability or language proficiency?. *The Modern Language Journal*, *90*(1), 6–18.

Vandergrift, L. (2007). Recent developments in second and foreign language listening comprehension research. *Language Teaching*, *40*(3), 191–210.

Vandergrift, L. (2011). Second language listening: Presage, process, product and pedagogy. In E. Hinkel (Ed.), *Handbook of research in second language teaching and learning* (2nd ed.) (pp. 455–471). New York: Routledge.

Vandergrift, L., & Baker, S. (2015). Learner variables in second language listening comprehension: An exploratory path analysis. *Language Learning, 65*(2), 390-416.

Vandergrift, L., & Goh, C. (2012). *Teaching and learning second language listening. Metacognition in Action.* New York: Routledge.

Vandergrift, L., Goh, C., Mareschal, C., & Tafaghodtari, M. H. (2006). The metacognitive awareness listening questionnaire (MALQ): Development and validation. *Language Learning, 56*(3), 431-462.

van Zeeland, H. (2013). Vocabulary in listening. In J. I. Liontas (Ed.), *The TESOL encyclopedia of English language teaching* (pp. 1–6). New York: John Wiley & Sons, Inc.

van Zeeland, H., & Schmitt, N. (2013). Lexical coverage in L1 and L2 listening comprehension: The same or different from reading comprehension?. *Applied Linguistics*, *34*, 457-479.

Wang, Y., & Treffers-Daller, (2017). Explaining listening comprehension among L2 learners of English: The contribution of general language proficiency, vocabulary knowledge and metacognitive awareness. *System*, *65,* 139-150.