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Research Article

The Effect of Shadowing Technique on Elementary and Intermediate EFL Learners' Listening Comprehension

Forouzan Malekmohammad[1], Hadi Salehi[2], Omid Tabatabaei[3], Sara Hashemi Shahraki[4]

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Abstract

Listening is important in daily life and academic contexts as it is crucial to sustain effective communication. Shadowing is one of the techniques that might improve listening comprehension. Therefore, this study aimed to find the effect of the shadowing technique on the listening comprehension of elementary and intermediate EFL learners. The participants included 96 EFL learners who were selected through convenience sampling and were divided into three groups, namely pre-shadowing, post-shadowing, and control group for each proficiency level. Following the shadowing technique procedures, eight lessons were taught using Tactics for Listening Book Series. The data were collected by pre- and post-tests of listening comprehension and were analyzed using the analysis of covariance (ANCOVA). The findings indicated that post-shadowing activities were the most useful and practical ones for both proficiency levels. Therefore, teachers and material developers are recommended to include shadowing activities in classroom practices, tasks, and teaching materials.

Keywords: EFL learners, level of proficiency, listening comprehension, shadowing techniques.

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1. English Department, Najafabad Branch, Islamic Azad University, Najafabad, Iran. f_malekmohammad@shu.iaun.ac.ir
2. English Department, Najafabad Branch, Islamic Azad University, Najafabad, Iran (Corresponding author). hadisalehi@phu.iaun.ac.ir
3. English Department, Najafabad Branch, Islamic Azad University, Najafabad, Iran. tabatabaeiomid@phu.iaun.ac.ir
4. English Department, Najafabad Branch, Islamic Azad University, Najafabad, Iran. s.hashemi@phu.iaun.ac.ir

Introduction

The ubiquity of listening skill in language learning is well known today. Morley (2001) stated that listening is crucial in second language learning, and its instruction is necessary for achieving competence in the second language. However, listening has been one of the most overlooked skills in the foreign and second language since the late 1960s. Instead, reading and grammar have been the main focus of researchers and language teachers, and instruction of listening has not been viewed as an essential part of teaching a language (Richards & Rodgers, 2001). As stated by Field (2008, p. 13), "in the early days of English Language Teaching (ELT), listening chiefly served as a means of introducing new grammar through model dialogues."

As Carroll (1977) stated, shadowing was initially implemented to prepare novice interpreters to listen and speak their target language simultaneously before seeking to interpret one language into another. Shiota (2012) stated that the shadowing technique could develop simultaneous interpreters' interpreting skills. Shadowing was defined by Lambert (1988, p. 266) as "a paced, auditory tracking task which involves the immediate vocalization of auditory presented stimuli, i.e., word-for-word repetition in the same language, parrot-style."

The current use of shadowing in an EFL context has enhanced the listening skills of learners. Shadowing facilitates extensive listening practice for students; it helps them to focus on the content; therefore, their listening will improve (Tanaka, 2004). Tamai (1997), one of the first researchers who studied shadowing in EFL contexts, described this technique as a dynamic and extremely cognitive task in which students pay attention to what they hear and articulate it as plainly as possible when listening at the same time. Shadowing requires an on-line process, in which learners should articulate what they hear, with limited time to infer meaning during shadowing; however, rote repetition or oral reading requires an off-line process, in which learners are allowed to pause silently for cognitive activities, like understanding meanings, before reproducing the noticed sounds (Kadota, 2007). That is to say, in the repeating process, learners are supposed to store the input briefly while in shadowing, they have very limited time for input storage. Hamada (2012) asserted that repeating and monitoring the incoming speech and the shadowed content engages different brain regions and develops the working memory

capacity. Not only can listening comprehension and working memory be affected by shadowing practice, but oral fluency will also be improved. As stated by Zakeri (2014), through repeated shadowing practice, hesitation in speaking might be reduced.

As Tamai (1992) stated, one technique that fosters listening comprehension is shadowing which helps students in different ways. First, at the micro-level, the bottom-up processing is triggered and allows learners to reproduce the initial discourse. Second, bottom-up processing enhances macro-level analysis by passing on more information, leading to the activation of top-down processing. Third, shadowing activates the echoic memory, "which stores the information one hears for a short period" (Kadota, 2007, p. 255) to keep received sound data more precisely. Fourth, the storage capacity of learners who retain the received information is enhanced, providing more time for data processing procedures.

Literature Review

Shadowing

The concept of shadowing was initially developed in the 1950s for selective attention (Cherry, 1953). Afterward, the shadowing technique was employed for teaching simultaneous translators. Tamai (1992) published the first article on the application of the shadowing technique in EFL contexts, which was followed by the increasing attention to shadowing as a teaching technique in Japan, and then its use gradually spread in other Asian EFL contexts.

Cherry (1953) conducted an experiment which is known as the cocktail party effect. The experiment included the following showdwing task. Think of a situation at a party. Some of your friends are talking about the music group you favor the most. You are alone eating and drinking. Even though you receive numerous auditory input from your surroundings, you can detect the name of your favorite music group and selectively attend to it. In this experiment, the participants performed a *dichotic listening task*, i.e., they were asked to wear headphones and received two different inputs; one was sent to the left and one to the right ear. They were asked to repeat the heard message simultaneously to show they were concentrating on one of the messages. This is now called the shadowing process. The interesting finding was that the participants were unaware of the input presented

to the unattended ear, so they could not clearly recall the shadowed input because they focused more on vocalization than comprehension.

To grasp the meaning of shadowing in language learning, we need to know the meaning of the word shadow, which refers to "a dark area or shape produced by a body coming between rays of light and a surface" (Stevenson, 2010, p. 1620). Tamai (1997) is among the pioneers who used the shadowing technique in the Japanese EFL context. According to Tamai, shadowing is an active cognitive task in which learners pay attention to what they hear and articulate it as plainly as possible, along with listening. Even though not all the content is vocalized (Nakayama, 2015), some subvocal rehearsal actions become visible when the learners are shadowing. Therefore, the sub-vocal rehearsal processing will be reinforced by shadowing practice, and the phonological loop will be improved.

Shiki et al. (2010) evaluated the impacts of repetition and shadowing on the production rate of two groups of university students. One group did the shadowing tasks, while the other performed repetition tasks. In so doing, both groups initially listened to the selected passage, and then, the shadowing group shadowed while the repetition group repeated the passage six times. Findings showed that the repetition group did better than the shadowing group regarding the first assessment's reproduction rate. However, after the fourth or fifth assessment, neither of the groups showed improvement. In other words, the performance of both groups stabilized after the fourth or fifth shadowing or repetition, indicating that five to six sets of repetitions and shadowing may be enough while utilizing a similar material.

Ekayati (2020) investigated the role of the shadowing technique on students' listening word recognition. The participants were divided into two groups, and the shadowing technique was used for the experimental group. The findings indicated that the shadowing technique influenced students' listening comprehension in terms of word recognition. Yavari and Shafiee (2019) explored the effects of shadowing and tracking on Iranian EFL learners' speaking fluency. In so doing, the participants were divided into four groups: shadowing group (SG), tracking group (TG), shadowing and tracking group (STG), and control group (CG). The findings indicated that the three experimental groups performed better than the control group; the STG group obtained the highest score.

Shadowing is of two types, namely phrase and phonemic shadowing. In

phrase shadowing, learners are required to repeat the input after hearing it, but in phonemic shadowing, they should repeat every sound concurrently. The time interval impacts how deeply the shadowed message is processed. Phrase shadowing includes grammatical analysis, and the recall rate of the shadowed material is higher in phrase shadowing, approving the deeper processing in this shadowing type (Lambert, 1992). However, researchers and practitioners need to be aware that these claims are made for shadowing in L1, which may not be directly applicable to the EFL context.

Listening Skill

Field (2008, p.13) suggested that "in the early days of English Language Teaching (ELT), listening chiefly served as a means of introducing new grammar through model dialogues." Research on listening in EFL/ESL learning showed that this skill is one of the most demanding ones for students (Goh, 2000). Gilakjani and Ahmadi (2011) argued that EFL students experience significant difficulties in listening comprehension due to unnecessary focus on reading, vocabulary, and grammar. Ur (2007) reports that some aspects of listening comprehension are easier for students. In this respect, some of the major issues that learners face during listening are: "hearing sounds, understanding intonation and stress, coping with redundancy and noise, predicting, understanding colloquial vocabulary, fatigue, understanding different accents, using visual and aural environmental clues" (Ur, 2007, p. 11-20). As reported by Underwood (1989), the frequent difficulties students encounter during listening are delivery speed, lack of contextual knowledge, not having the chance of hearing words again, not being able to track signals like transitions, limited vocabulary, lack of concentration, and tendencies, such as seeking to comprehend every single word of the listening input.

Listening comprehension can be challenging because effective listening necessitates fairly high language proficiency; furthermore, English learners commonly lack the required background linguistic or cultural information, which affects second language comprehension. However, it is unknown whether cultural background equally and similarly impacts the listening comprehension of students with high or low proficiency levels. Additionally, familiarity with the topic and vocabulary knowledge influence listening comprehension more significantly than syntactic knowledge, yet how and to what extent these elements influence listening

comprehension are questions that do not have clear answers yet (Pashayi & Mahmoudi, 2017; Safaei Asl et al., 2023).

Iranian EFL students, especially those with low proficiency levels, commonly experience difficulty comprehending oral English texts for two main reasons. First, the lack of high vocabulary knowledge or language proficiency causes difficulty in dealing with unknown concepts. Second, the lack of Iranian EFL students' familiarity with Western traditions and values causes comprehension problems. The generality and specificity of the selected texts might also affect EFL learners' listening comprehension since the specificity of the texts might impede understanding and comprehension (Pashayi & Mahmoudi, 2017).

Students with low proficiency levels cannot fully understand texts even with the required background knowledge (Pulido, 2004). However, Pulido (2004) argues that background knowledge may only facilitate the comprehension of students with low proficiency levels. According to Long (1990), language proficiency supersedes background knowledge in listening comprehension. Advocates believe that high proficiency guarantees listening comprehension and that listeners do not need to have background information.

Some issues affect listening to a foreign language compared with the native language (Abassy Delvand & Mashhadi Heidar, 2022; Bommelje et al., 2003; Gan et al., 2004); for example, gender, age, foreign language exposure, first language, and the number of studied languages are among the main issues (Witkins-Mace, 2006).

Collier (1987) believes that older learners can go through second language learning stages faster, yet those who are exposed to the second language at an early age eventually achieve higher levels of proficiency. On the contrary, Brown (2000) argues that adults and adolescents are better at learning a new language than children in many ways, except pronunciation. In general, the literature reveals that age impacts second language learning. Moreover, the results are mixed.

Many studies evaluated the impact of age on listening using a dual-task paradigm (e.g., Desjardins & Doherty, 2013). These studies mainly examined the influence of age by comparing older and younger adults and concluded that the listening effort increased in the older age group.

Older individuals regularly face problems in comprehending speech in

unfavorable listening situations. Moreover, middle-aged adults repeatedly state that speech accessibility is challenging, especially in adverse circumstances. Generally, higher-level cognitive resources are required to handle the information loss when an incoming speech sign is misrepresented, which makes it more effortful and challenging to understand the speech (Schneider et al., 2002).

Schneider et al. (2000) implemented an extreme-groups style to explore the differences between young and older adult's listening comprehension. In a series of experiments, both groups listened to extensive listening tracks (10-15 min.) and answered some specific and collective multiple-choice questions. When both groups were investigated under similar listening conditions, the older adults with relatively slight hearing losses showed notably inferior listening comprehension compared to young adults with normal auditory sensitivity.

Earlier studies (e.g., Avivi-Reich et al., 2014; Schneider et al., 2000) involved spoken language comprehension in authentic daily listening conditions (listening to short dialogues and discourses) aimed to find the way issues in gaining lexical access influence the higher-order processes which are related to language comprehension. In so doing, the researchers need to ensure that younger and older adults using their L1 and young adults listening to L2 were equated for lexical access.

To answer the question of "What is successful listening?", Anderson and Lynch (2003, p. 5-6) stress four various methods to clarify whether incoming speech can or cannot be processed by the listener: first, what has been said may not be adequately heard by the listener; second, the listener might adequately hear the words or phrases of incoming speech but cannot comprehend due to semantic or syntactical issues; third, the speech may be heard and understood perfectly, but the listener may consciously or unconsciously have switched off, and fourth, the listener pays full attention to the speech and attempts to interpret it coherently.

Some English sounds that may not exist in the learner's native language might cause comprehension difficulties. This is one of the major issues that might threaten English language learners. For example, some of the English consonants, like /θ/ (thick) or /ð/ (that) produced with the tongue between the teeth, do not exist in the Turkish language; however, English and Turkish have similar consonants (Yavuz, 2006). The nearest sound of Turkish for /θ/ is /t/, which may lead to

confusion among Turkish learners when hearing the words such as 'three.'

Moreover, understanding the meaning of spoken language requires more effort from most language learners than native speakers. Language learners, for instance, are affected by pronunciation differences and outside noise more than native speakers. However, learners can deal with these conditions in their native language. Ur (2007) presents various explanations about why language learners cannot fully deal with these problems in the target language. Firstly, language learners understand the written form of words or when they are pronounced slowly; however, they cannot recognize them only because they do not know them or because of fast speech. Secondly, it might be due to a lack of learners' familiarity with the lexis, sound combination, and collocations, which help make guesses and complete the missing parts. Additionally, one of the issues might be students' lack of familiarity with colloquial vocabulary itself.

Making predictions is difficult for language learners, especially when unfamiliar with regularly used proverbs, collocations, and idioms. In addition, different elements of spoken language, like intonation and stress, have a crucial role in exact situations. Moreover, continually attempting to understand unfamiliar sounds and lexis is tiresome for many language learners. For many language learners, facing different accents could also be problematic since, particularly in the EFL context, they hear the target language from their teachers who are not native speakers. Nevertheless, students should have the opportunity to get familiarized with various accents to solve this issue (Underwood, 1989; Ur, 2007). Ur (2007) discussed another critical problem: the lack of language learners' ability to utilize environmental clues to perceive the meaning. This occurs because they cannot use visual clues while listening to L2, not because they cannot grasp those clues as they do in their L1. As stated by Ur (2007), "their receptive system is overloaded" (p. 21), and this causes them stress. Many language learners make more effort when listening to a foreign language than native speakers because they attempt to grasp most of the details in a text. That is to say, language learners concentrate on the meaning of actual words and only pay attention to the literal meaning, leaving them no time to understand the conversational side of it. Consequently, they cannot perceive the pragmatic meaning of the phrases or words, which causes issues in listening comprehension.

One of the approaches for providing solutions to learners' issues is to investigate their perceptions of difficulties with listening comprehension initially. Some studies on students' listening difficulties concentrated on vocabulary (e.g., Johns & Dudley-Evans, 1980), speech rate (McBride, 2011), along with the influence of phonological features and listener's background information (e.g., Chiang & Dunkel, 1992).

Several studies have been conducted on learners' difficulties with listening comprehension by considering their perspectives. In a study investigating students' views of listening comprehension difficulties, Goh (2000) addressed the problem from a cognitive viewpoint and recognized the three listening process stages: perception, parsing, and utilization.

Concerning the significance of listening comprehension, as stated above, and the problems the students commonly face in learning this skill, the researchers need to find ways and techniques to help students acquire this skill. As stated in the review of literature, shadowing is one such technique that might be helpful; therefore, the present study aimed to investigate the effect of two different types of shadowing tasks (pre-shadowing and post-shadowing) on the EFL university student's listening comprehension with elementary and intermediate proficiency levels. Therefore, these research questions were posed for the present study.

1. Is there any significant difference among the three groups (pre-shadowing, post shadowing, and control groups) of Iranian elementary EFL learners in listening performance?
2. Is there any significant difference among the three groups (pre-shadowing, post-shadowing, and control groups) of Iranian intermediate EFL learners in listening performance?

Method

An experimental research design was selected to compare elementary and intermediate EFL learners' performance divided into three groups: pre-shadowing, post-showing, and control group.

Participants

The research participants were 96 elementary and intermediate EFL learners (48 in the elementary group and 48 in the intermediate group l) of Afagh

Language Institute in Isfahan, Iran. The proficiency level was ensured using the Oxford Placement Test (OPT). Participants were both female and male, whose ages ranged between 11 and 35. They had 2 to 3 hours of English each week (one hour for listening), and were randomly divided into control (elementary (n = 16), intermediate (n = 16) and experimental (elementary: pre-shadowing (n = 16), post-shadowing (n = 16); intermediate: pre-shadowing (n = 16), post-shadowing (n = 16) groups.

Instruments and Materials

In this study, data were collected using three instruments related to the variables in the study:

Oxford Placement Test (OPT): The Quick Placement Test was used to recognize the learner's competence level. This placement test is developed to analyze new learners' English levels and place them into categories according to the six levels in this series (A1 to C2). This highly reliable test comprises 60 questions in two parts. In the first part, learners have to answer five language use questions, three cloze tests, and twenty grammar items. The second section covering items 41 to 60 includes two cloze tests and ten vocabulary choice questions. The test was administered at the beginning of the course to measure students' general English language proficiency level. For the OPT test, the scores between 0 and 29 indicate the beginner level, and the range of 30-47 shows an intermediate level. The same was considered as the cut-off point in the present study.

Listening Pre-test: The first instrument was a multiple-choice pre-test from Tactics for Listening (Basic level for elementary groups and Developing level for intermediate groups) based on each group's listening comprehension level (elementary or intermediate group) to evaluate their listening comprehension. This test measured the listening skills ability of each student before the treatment and included 25 items (one pre-test was developed for elementary level and one for intermediate level students), in which the learners had to choose the only correct option among the answers. The validity of the pre-test was approved by two qualified instructors and a university professor, and the test reliability, evaluated by Cronbach's alpha, was .73.

Tactics for Listening: The second instrument used was the Tactics for Listening series by Jack C. Richards (2011, third edition), from which listening

sections were utilized in treatment for both elementary and intermediate groups. The Basic book was used for elementary groups, and the Developing book was used for intermediate groups.

Listening Post-test: The third instrument was a multiple-choice post-test from Tactics for Listening (Basic level for elementary groups and Developing level for intermediate groups) based on each group's listening comprehension level to evaluate their listening comprehension after the treatment. The post-tests contained 25 items (one post-test was developed for elementary level and one for intermediate level students) in which learners were to choose the only correct option among the answers. The validity of the post-test was confirmed by two qualified instructors and a university professor, and the test reliability, estimated by Cronbach's alpha, was .75.

Procedure

The participants were studying in the same institute and were taught by the same teacher. They attended English classes three times a week. Classes lasted 60 minutes per session, and class sizes were usually between 20-25 students.

In each proficiency level, the students were randomly divided into three groups: (a) elementary groups pre-shadowing (n = 16), post-shadowing (n = 16), and control (n = 16) and intermediate groups pre-shadowing (n = 16), post-shadowing (n = 16), and control (n = 16). A pre-test consisting of 25 listening test items was administered to learners one session before treatment to measure the participants' initial knowledge. Appropriate listening texts were selected from the Tactics for Listening (Developing and Basic) book.

Two sets of materials were developed to investigate the differences between the two sorts of listening instruction: The first set of materials was the listening passages used in pre-shadowing groups (elementary and intermediate). The teacher presented the content of an audio recording of the selected listening text on the whiteboard and performed the shadowing steps in the classroom (see Table 1), and then she worked on listening. Students were required to fill in a partially completed passage when they listened and saw the content. They were informed that the focus was on meaning and that the exact listening words were not required. Then, they moved forward with the next parts. All these activities were covered in the classroom.

The second set of materials was listening passages used in post-shadowing groups (elementary and intermediate). The teacher played an audio recording of the selected listening text, and students were required to fill in a partially completed passage during the time they listened, and the shadowing steps (Table 1) were followed in the classroom. All these activities were also covered in the classroom.

Table 1

Six Steps of Shadowing Training (from Kadota & Tamai, 2004, p. 62)

Steps	Procedure	Details
1	Listening	Listening to the audio without the script and trying to roughly grasp the content and the speech style
2	Mumbling	Shadowing without the script, focusing on the heard sound rather than reproducing pronunciation
3	Synchronized reading (content understanding)	Shadowing with the script, focusing on the meaning of the script
4	Prosody Shadowing	Shadowing focusing on prosodic features, such as stress, rhythm, intonation, speed, pause, etc
5	Synchronized Reading (difficult points)	Shadowing with the script focusing on the parts listeners find difficult
6	Content Shadowing	Shadowing focusing on the content without reading the script

Scoring and Data Analysis

The pre-test and post-test each had a maximum of 25 points. A full point was awarded when the correct option was chosen, and each incorrect answer was scored with no points. Analysis of covariance (ANCOVA) was run to respond to the research questions.

Results

The first research question sought to find any difference between pre- and post-shadowing groups of Iranian elementary EFL students in listening performance. A pre- and post-test along with an eight-session treatment was administered to respond to this question, and the data were analyzed by the analysis of covariance (ANCOVA).

Table 2

Descriptive Statistics of the Three Elementary Groups

Group	M	SD	Adjusted M	SE
Post-shadowing	15.96	2.15	16.31	.29
Pre-shadowing	13.83	2.29	13.85	.28
Control	13.71	2.47	13.37	.29

As shown in Table 2, the pre-shadowing group had the highest mean (M = 15.96, SD = 2.15), and the control group had the lowest mean (M = 13.71, SD = 2.47). After controlling for the pre-test scores (as a covariate), the post-shadowing group still had the highest mean (M = 16.31, SE = .29); furthermore, the mean of this group increased at this stage.

Table 3

ANCOVA Results of the Three Elementary Groups

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
pretest	182.21	1	182.21	136.44	.00	.75
listening	77.99	2	38.99	29.20	.00	.57
Error	58.75	44	1.33			

Note: R Squared = .79 (Adjusted R Squared = .78)

As Table 3 shows, after controlling for the pre-test effect, the results of the ANCOVA test imparted significant differences between the experimental and the control groups (F (2, 44) = 29.20, p < .05), indicating that the treatment enhanced listening post-test scores significantly, with large effect size, (Partial Eta Squared = .57). A pairwise comparison was run to know if the difference in the performance of the three groups was significant, whose results are presented in the following table (Table 4).

Table 4

Pairwise Comparison of the Three Elementary Groups

(I) listening	(J) listening	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval for Difference	
					Lower Bound	Upper Bound
Post-shadowing	Pre-shadowing	2.44*	.41	.00	1.42	3.46
	control	2.94*	.41	.00	1.91	3.97
Pre-shadowing	control	.50	.41	.67	-.51	1.52

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

The pairwise comparison suggested that the mean difference between the pre-shadowing and the post-shadowing group of elementary EFL learners was significant ($p < .05$), and as shown in Table 4, the post-shadowing group had the higher mean. The same was found when comparing post-shadowing with the control group. However, the difference between the pre-shadowing and control groups was not significant ($p > .05$).

The second research question sought to find the differences between pre- and post-shadowing groups of Iranian intermediate EFL learners in listening performance. A pre- and post-test, along with an eight-session treatment, was administrated, and an analysis of covariance (ANCOVA) was run to analyze the data.

Table 5

Descriptive Statistics of the Three Intermediate Groups

Group	M	SD	Adjusted M	SE
Post-shadowing	16.25	1.76	17.33	.26
Pre-shadowing	14.71	1.70	14.56	.24
Control	14.65	2.29	13.72	.26

As shown in Table 5, the pre-shadowing group had the highest mean (M = 16.25, SD = 1.76), and the control group had the lowest mean (M = 14.65, SD = 2.29). After controlling for the pre-test scores (as a covariate), the post-shadowing

group still had the highest mean (M = 17.33, SE = .26); furthermore, the mean of this group increased at this stage.

Table 6

ANCOVA Results of the Three Intermediate Groups

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Pre-test	126.17	1	126.17	130.11	.00	.74
listening	91.20	2	45.60	47.02	.00	.68
Error	42.66	44	.97			

Note: R Squared = .78 (Adjusted R Squared = .76)

As Table 6 shows, after controlling for the pre-test effect, the results of the ANCOVA test imparted significant differences between the experimental and the control groups (F (2, 44) = 47.02, p < .05), indicating that the treatment enhanced listening post-test scores significantly, with large effect size (Partial Eta Squared = .68). A pairwise comparison was run to know if the difference in the performance of the three groups was significant (Table 6).

Table 7

Pairwise Comparison of the Three Intermediate Groups

(I) listening	(J) listening	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval for Difference	
					Lower Bound	Upper Bound
Post-shadowing	Pre-shadowing	2.76*	.36	.00	1.85	3.67
	Control	3.61*	.39	.00	2.64	4.58
Pre-shadowing	Control	.84	.35	.06	-.03	1.73

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

The pairwise comparison suggested that the mean difference between the pre-shadowing and a post-shadowing group of intermediate EFL learners was significant (p < .05), and the post-shadowing group had a higher mean (Table 5).

The same was found when comparing post-shadowing with the control group. However, the difference between the pre-shadowing and control groups was not significant ($p > .05$).

Discussion

The first research question of the present study aimed to uncover whether there is any difference among pre-shadowing, post-shadowing, and control groups of Iranian elementary EFL learners in listening performance. The outcome of the analysis of covariance revealed that the post-shadowing technique significantly developed the listening comprehension skills compared with the pre-shadowing and control groups. This result provides at least three interpretations.

The results indicated that the shadowing technique was influential in promoting listening comprehension processing irrespective of learners' listening proficiency level. Although using the shadowing technique was effective for promoting basic listening comprehension skills of low-proficiency listeners (elementary groups), it was also effective for improving higher-proficiency listeners' developing listening comprehension skills (intermediate groups) group.

Top-down shadowing (another name for post-shadowing) is a knowledge-based task since students practice according to their previously acquired knowledge (Kadota, 2012). The knowledge students have already acquired (i.e., grammar and vocabulary) can be reinforced by repetition. All these positive advantages lend support to the more beneficial impact of the post-shadowing process on listening comprehension.

Additionally, the procedure of this technique aligns with one of the widely accepted teaching principles, "Presentation, Comprehension, Practice, Production," whose positive impact on listening has already been documented (Iwanaka & Takazuka, 2011). This technique can positively affect learners' cognitive processes, and teachers can go through their normal procedures without needing to make fundamental changes to the traditional teaching style (Muranoi, 2006).

In the pre-shadowing stage, the passage contained words that learners previously faced. Hamada (2014) stated that learners commonly resort to the knowledge they have already acquired to perform a task, i.e., they do the tasks from a knowledge base perspective; however, in pre-shadowing, they encounter numerous

new words that make knowledge activation and listening comprehension more challenging.

The second question was to find any difference among the pre-shadowing, post-shadowing, and control groups of Iranian intermediate EFL students in listening performance. The aim was to see if shadowing training improves learners' listening comprehension skills. The findings for the intermediate group revealed the outperformance of the post-shadowing group in listening comprehension tests.

Post-shadowing might promote the successful internalization of items that have been newly acquired, and students can focus on semantics and phonology during shadowing, which may link the word's phonology and meanings (Oki, 2012). Consequently, post-shadowing allows students to overview and internalize what they have learned. Sumiyoshi (2022) also found that post-shadowing enhanced listening comprehension and dictation at slow and fast speed of university students. Similarly, Zaidan (2021) investigated the effectiveness of the shadowing technique on improving 5th-grade students' listening comprehension, and the findings indicated significant improvement in students' listening comprehension.

Moreover, through this process, students can engage in shadowing while feeling less cognitive load. Learners begin by studying new vocabulary and then continue comprehending the lesson content. Finally, they practice shadowing; therefore, while shadowing, they will not feel the pressure of facing unfamiliar content. This will decrease the psychological cost and anxiety of learners while doing this task. Kurata (2007), as cited by Hamada (2014), argue that shadowing is a complicated cognitive task in its nature. However, post-shadowing may lead to the reduction of students' psychological burden.

Additionally, achieving better results by the post-shadowing group might be due to the activation of initially learned features (i.e., schema) during shadowing practice. Comprehending the L2 content before shadowing leads to the activation of phonological and semantic information in target contents. This will allow students to engage in bottom-up processing, including distinguishing incoming phonological information, and top-down processing, including guessing the upcoming words. Consequently, this will help learners to shadow more accurately. Subsequently, the precise phonological information will be transferred to the long-term memory, which increases their learning.

Alongside the presented theoretical analysis, this outcome reveals the priming effect, which is observable in this experiment (McDonough & Trofimovich, 2009). The prime stimulation for the post-shadowing group (i.e., target contents and vocabularies that they learned) may increase the target stimulation (i.e., target contents and vocabularies that they shadowed), developing learners' listening comprehension.

Conclusion

Every instructor and researcher desires to apply more beneficial teaching techniques to facilitate the improvement of students' listening skills. The findings of the current study indicated that post-shadowing is desirable for normal EFL classroom activities with difficult materials and new expressions and vocabulary. Additionally, this research demonstrated how shadowing, a teaching technique that is theoretically effective, can be utilized more practically, linking theory and practice. Besides developing students' listening skill, applying the shadowing technique in a listening class could develop learners' spelling and vocabulary. While the learners listened and wrote the speaker's words, they frequently faced some unknown words.

This study had some limitations that should be addressed in subsequent investigations. First, a major limitation is that the present study only investigated the general aspects of pre-shadowing activities rather than the details of how learners regulate their learning in a given environment. Further research is needed to evaluate the improvement of post-shadowing task application in an extensive research paradigm. The second limitation concerns the sample size. The number of participants included in this study was not large enough to generalize the findings to all English learners.

Some pedagogical implications can follow the results of this study. One of the main implications of the current research is that post-shadowing activities were useful and practical for elementary and intermediate-level students. Additionally, concerning the importance of vocabulary in second language listening, as stated by Meara (1996, p. 35), "lexical competence is at the heart of communicative competence," a post-shadowing technique can be suggested for better lexical comprehension in both elementary and intermediate levels.

Furthermore, two pedagogical implications can be proposed regarding lesson planning and the psychological status of learners. First, shadowing is more beneficial when the target contents are learned before using them in communication. Also, the comprehension and practice phase of the PCPP model can be implemented by teachers to enhance students' learning.

Furthermore, this process may promote the internalization of newly acquired items. Some students can focus on semantics and phonology during shadowing, linking phonology and meanings (Oki, 2012). Consequently, post-shadowing allows students to overview and internalize what they have learned. Moreover, through this procedure, students can engage in shadowing while feeling less cognitive load.

A longitudinal study might be required to establish a definitive and suitable plan for working on pre-shadowing activities. Furthermore, cooperative work and explicit exposure to pre-shadowing activities allow students to comprehend aural tasks better. However, these results can be viewed just as a preliminary conclusion. Moreover, participants with more varied backgrounds should be recruited so that the results can be more valid and generalizable.

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