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A Comparative Study of the Effect of Explicit and Implicit Pronunciation Instruction on Critical Thinking and Listening Comprehension of English Language Learners

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ABSTRACT

Communication in English and critical thinking are two essential 21st-century competencies. A variety of teaching and learning techniques are being developed to equip students with these skills and meet the challenges of global competition. Critical thinking skills should be developed and transferred through education, but there are few empirical studies available to help educators decide how to enhance critical thinking in the classroom. Accordingly, the present mixed-methods study scrutinized the impact of explicit and implicit pronunciation instruction on the critical thinking and listening comprehension of English language learners. Over 6 months, two groups of 34 English language learners were exposed to pronunciation instruction (explicit mediators using phonetic rules, and implicit mediators without phonetic rules), and a control group of 17 students received no pronunciation instruction. Pre-tests and post-tests were used to measure learners' improvement in critical thinking and listening comprehension. Moreover, semi-structured interviews were used to show the participants' reflections regarding pronunciation instruction. The results of the data analysis revealed no significant change for the control group, but significant progress was found for both experimental groups' listening comprehension and critical thinking, especially the explicit group. Besides, the qualitative analysis showed that pronunciation instruction increased phonological awareness, listening improvement, and a sense of being analytic among participants in the explicit pronunciation group. Moreover, pronunciation instruction increased listening improvement among implicit pronunciation group participants. In brief, the findings suggest that helping students learn critical thinking skills does not require a comprehensive reorganization of the high school curriculum. It is possible to offer a critical thinking program like this during the school day without seriously disrupting the school's already full schedule.

Introduction

Throughout Asia, including Iran, higher education institutions consider learning English as a foreign language compulsory. This is because Asian countries recognize that being able to communicate in English is crucial to one's performance in the workplace (Nunan, 2003). Moreover, a report from Internet World Stats (2011) shows that 565 million Internet users (which translates to 27% of Internet users) communicate in English, making it the most used language online. Therefore, compared to users who do not speak English, users who can express themselves in and understand English can connect more easily with people throughout the world. In addition, they can gain knowledge that is available mostly in English. English proficiency is also becoming increasingly critical for gaining employment. Today, many employers use standardized English proficiency tests to make hiring decisions. Universities also commonly conduct such tests to determine which students to enroll. Furthermore, teachers and researchers are now being encouraged to ensure that students acquire so-called "21st-century skills" (e.g., communicative competence in different languages, higher-order thinking, and the ability to use information communication technology effectively; Partnership for 21st-century Skills, 2011).

Students from nations whose national language is not English, such as Iran, have more difficulties with listening than with other language-based skills. Yang et al. (2012) proposed three reasons for this problem: (1) Insufficient English language learning environments in which English is spoken; (2) an emphasis on teacher-centered and rote instructional methods and examinations focusing on vocabulary, grammar, reading, and comprehension while neglecting speaking and listening abilities; and (3) significant differences in students' English proficiency, which can reduce engagement and cause difficulties for many students whose abilities do not match the content they are learning.

Listening to fluent speech is helpful not only for effective communication in a second language, but also to naturally learn that language through rich input. Listening is a convoluted and demanding language component that requires different skills that are all necessary for communication and learning (Brown, 2013; Vandergrift & Goh, 2012). To make reliable predictions regarding anything that learners may perceive, some listeners rely on content-related prior information. This means they use this knowledge with a view to comprehend the whole message, not necessarily to recognize every term. The so-called technique is referred to as top-down (Field, 2004). On the other hand, the bottom-up technique uses all your prior understanding of second language linguistic structure to parse and categorize speech and all that the learners are listening to. The above-mentioned techniques let listeners shape the perception of the expected piece of information immediately from the oral expression that they are exposed to (Field, 2004). Recent studies have shown that listening difficulties might be related to phonological problems in addition to syntactic and lexical knowledge (Sutrisno, 2018). Instructing pronunciation is proven to develop second language accuracy in production (Kissling, 2018) in Foreign Language contexts, like English (Pennington & Richards, 1986), German (Moyer, 1999), and Spanish (Lord, 2005), guiding some scholars like Bongaerts et al. (1997) and Fullana (2006) to indicate that without the help of overt instruction, nearly all adult FL learners do not attain characteristics of a native speaker's pronunciation. It seems more effective to rouse learners to notice certain auditory aspects of the second language system, even for a short amount of time than exposing them to the second language sounds with the expectation that the students will find out those auditory-related aspects on their own (Wipf, 1985). Accordingly, listening comprehension is a complex process that requires learners to possess high-level skills and abilities to be able to construct the intended message from aural input.

Today, students need to gain critical thinking skills to be successful in their academic and professional lives. However, because of Iran's collectivist culture and traditional restriction of students' roles in their own education, critical thinking skills have not been prioritized in the Iranian education system. Nevertheless, the recent transformation in Iranian education has created a shift toward innovative teaching and

learning, thus reforming the curricula taught in schools. Students often name critical thinking skills as the most significant skills developed during formal education. This is because today's world demands that workers possess such skills owing to the increasingly rapid rate at which new knowledge is developed. Accordingly, it can be argued that learning cannot occur without some level of critical thinking and vice versa. In other words, when an individual thinks critically about something, they must learn about it, and any attempt to learn something must involve thinking critically about it. Thus, a critical thinker can evaluate, assess, and analyze persuasive information based on convincing evidence (Omidvar & Shukumar, 2013).

The contribution of critical thinking to learning languages has been highlighted by some researchers (Dornyei, 2005; Larsson, 2017). However, its role in learning different language components is still open to further exploration. The need for research in EFL contexts where critical thinking has a significant impact on language learning generally (Heidari, 2020), and listening performance, particularly, is crucial as very few studies have ever addressed such a topic. Accordingly, research on critical thinking and its instruction in the classroom has expanded as it relates both to students' academic and personal lives. This change has been reflected in its positive effect; its impact on educational, career, personal, and social success; and its status as an essential learning objective in schools (Fong et al., 2017; McCormick et al., 2015). These attributes help students learn how to use logical, careful, and accurate thinking to solve problems (McPeck, 2016); and create unique content instead of imitating others (Utriainen et al., 2016). As a result, critical thinking programs have become increasingly popular within EFL/ESL fields (Bakhtiari et al., 2021; Heidari, 2020).

There are two main ways to promote critical thinking through instruction. The first approach (called the embedded approach) involves weaving critical thinking skills into the content being taught; the second involves providing lessons that focus explicitly on teaching students how to apply critical thinking skills. The first method has been used more commonly than the latter. It uses questions and discussions to encourage students to expand their thinking instead of memorizing lessons. This embedded approach has a clear purpose, especially within specific fields of study. One of its major shortcomings, however, is that it may not enable students to apply the critical thinking strategies they have learned to multiple disciplines or their daily lives. Moreover, most students are not exposed to coursework that promotes critical thinking. Typically, only students in advanced classes are taught critical thinking skills. Furthermore, minority and disadvantaged secondary students do not often receive instruction focused on critical thinking (Warburton & Torff, 2005). Accordingly, the present study investigated the following research questions:

1) What is the effect of pronunciation instruction on L2 listening comprehension and critical thinking of high school students?

2) Comparing explicit and implicit instruction, which mode of pronunciation instruction affects L2 listening comprehension and critical thinking of high school students?

3) What are participants' reflections on pronunciation instruction in English language listening comprehension classrooms?

Literature Review

It is widely accepted that listening is an important skill that is difficult and necessary to teach in English as a foreign language classes. Listening requires both top-down and bottom-up processing, yet pedagogical techniques for the latter are often lacking. This study explores the efficacy of pronunciation instruction for improving learners' listening comprehension.

The Relationship between Pronunciation Instruction and Listening Comprehension

Research on listening comprehension has greatly enriched our understanding of this skill as a learner-internal process providing teachers with several instructional and practical challenges. It is more common for teachers to engage learners in classroom activities to foster their listening skills instead of teaching them directly how to improve and reinforce this skill (Brown, 2013). In the case

of novice learners, guided by experience, the progression and practice of bottom-up processing strategies and explicit instruction are needed (Field, 2003). Drawing upon carefully conducted studies (see Vandergrift & Goh, 2012), however, most studies put the focus on top-down meta-cognitive listening strategies to increase the level of listening comprehension among L2 learners. In this respect, Yeldham (2016) noted that as a result of teaching strategies, listening comprehension appeared to show a more evident sort of development in comparison with an approach that balanced bottom-up and top-down techniques, even though in some specific tasks the balanced approach led to better bottom-up processing. However, the level of EFL learners' proficiency may skew the results, which means that novice language learners employ more bottom-up techniques in comparison to intermediate learners (Goh, 2000; Vandergrift & Baker, 2015).

Pronunciation is a critical part of oral communication, as the listener's understanding depends on whether the speaker has adequate pronunciation skills. According to previous research, owing to the importance of sounds, pronunciation instruction was found to be fundamental to foreign language teaching (Hişmanoğlu, 2006). Therefore, pronunciation should be central to any language learning course. Gebhard (1996) reported that pronunciation is strongly correlated with listening comprehension, as the production and perception of vocal communication depend on the organization of speech as well as the speaker's and listener's knowledge of sounds, intonation, and stress patterns (as cited in Khaghaninejad & Maleki, 2015). Learners receive sounds (e.g., phonemes, tone, stress patterns, and rhythm) in the classroom; thus, basing lessons on different features of sounds can enhance learners' listening comprehension. Research has also shown that students need to concentrate and utilize senses other than hearing to enhance their listening skills (Larsen Freeman, 2000). Therefore, people with low concentration tend to have low levels of listening comprehension.

Researchers have proposed that L2 listeners would better understand L2 speech if their bottom-up processing skills (which are used to interpret the flow of speech) were improved (Field, 2004). Therefore, learners need to create a unique motor memory comprising aural images of sounds, which can be accomplished through oral training. The results of an interesting study revealed that listening training improves pronunciation to a slightly broader extent than pronunciation training improves listening skills (Shimamune & Smith, 1995). However, the authors noted that their results should be interpreted with caution. Siegel and Siegel's (2015) study with pre-intermediate learners, for instance, showed the effectiveness of some bottom-up skill activities like underlining connected speech in transcripts and counting words on the improvement of listening comprehension. Becoming L2 sound system-literate, learners can segment the flow of speech and identify words to improve their listening comprehension. Although the number of studies around pronunciation instruction (PI) is scarce, the effect of expanding knowledge of the L2 sound system on listening comprehension is undeniable. It is also inherent to note that scant attention has been paid to English pronunciation and no major effort has been made to perceive the enormous importance of this invaluable and significant skill (Pourhosein Gilakjani, 2018; Farhat & Dzakiria, 2017).

The Relationship between Listening Comprehension and Critical Thinking

Effective listening comprehension requires different skills. Oxford (1993) defined listening as a complicated skill that not only involves sound recognition but is also a method of problem-solving by which phrases, clauses, and sentences are understood. In a recent study it has indicated that various factors, especially critical thinking skills, affect the development of listening skills (ŽivkoviL, 2016) because critical thinkers tend to have control over their lives, work to achieve their potential, and become self-fulfilled (Liu et al., 2014).

According to Peithers and Soden (2000), critical thinking is associated with a number of abilities and dispositions, such as detecting problems, understanding their assumptions,

concentrating on them, analyzing them, making inferences, reasoning, and determining whether assumptions, data, and information are credible, legitimate, and trustworthy. Open-mindedness and assessing the validity of information are also among the CT dispositions (Ennis, 1993). Thus, critical thinking entails analyzing (recognizing a subject or issue and its inter-relationships), evaluating (assessing a problem from multiple perspectives), and determining (making sound decisions according to one's knowledge and missing information about a problem). A previous study examined whether critical thinking is related to listening comprehension among Iranian EFL learners. The authors found that critical thinking acted as a mediator in determining participants' listening comprehension and their abilities to understand the speaker and relay their message (Zare et al., 2013). In other words, when listening, a person decides which information to focus on and then interprets and comprehends that information (Vandergrift, 2006). In this way, the findings of this study align with the results of Zare et al. (2013). In their study, participants' listening comprehension and abilities to understand the speaker and relay their message were mediated by their abilities to think critically and analyze and reflect on the speaker's words.

Listening occurs in the listener's mind, and thus, the listener's mind forms the context in which speech is deciphered (Buck, 2001). Furthermore, critical thinking instruction for educators has not been given much attention. Even though critical thinking skills are essential to developing students' higher-order thinking skills, teachers often express that such abilities should be taught to a small portion of high-achieving students. Accordingly, lessons based on higher-order thinking would be too difficult to benefit other students (Zohar & Dori, 2003). When teaching listening skills, teachers can provide students with achievable learning outcomes and utilize exercises that students can solve by using language. Students and teachers can collaborate to assess the contents of listening lessons to ensure that students achieve the predetermined outcomes. Cognitive skills, such as listening comprehension, depend on one's knowledge and understanding of a topic, as well as critical thinking skills. Providing students with achievable learning outcomes would help them think about information critically and generate meaningful solutions to problems. In this regard, providing students with pronunciation tips and features, and helping them to be able to understand target sounds and analyze similarities and differences between them or help them to be able to evaluate and discriminate English word stress when the cue of pitch is manipulated, can encourage, and promote both listening comprehension and critical thinking skills in students.

Method

Participants

The current quantitative experimental study was done in a private school in Kerman, Iran. 60 students registered in an online listening comprehension course were asked to participate during the academic year 2021-2022. At the time of the study during the COVID-19 pandemic lockdown, all these students were enrolled in online classrooms, and they had never experienced any pronunciation and CT instruction before. After explaining the goal of the study, 51 elementary students were chosen based on their scores on the Oxford Placement Test. The participants were Farsi native speakers, and they were studying in the ninth grade of an Iranian high school. They were all female and 15 years old. In terms of ethical issues, students participated voluntarily.

Instruments

Oxford Placement Test was the first research instrument used in the present study. Syndicate (2001) developed the test, which consisted of sixty items in multiple-choice format. The test was scheduled for 30 minutes. Secondly, the Cornell Critical Thinking Skills Test (CCTST) was used to assess the critical thinking level of the participants. This scale measures the learners' critical thinking ability. A 50-minute time limit is set for the test, which contains 52 multiple-choice questions. Each item has three options. The test consists of four sections: Induction, Credibility, Deduction, and Assumption Identification. A

Cronbach alpha of 0.92 was obtained by the scale mentioned above, which indicates high internal consistency.

Table 1

The Cronbach's alpha reliability coefficient

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.920	.911	52

The third research tool used in this study was the listening comprehension test. The listening tests were developed in true/false, multiple-choice, and short-answer formats. Two English language experts were asked to check the course teaching materials and the listening test questions to guarantee the validity of the tests. The listening test questions that did not achieve minimum agreement by the experts were removed or revised. For both pre-and post-tests, the listening texts were the same with different test formats. The Cronbach's alpha reliability coefficient was .87 for the pre-test and .89 for the post-test.

Table 2

The Cronbach's alpha reliability coefficient

Reliability Statistics			
	Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
Pre-test	.870	.861	18
Post-test	.890	.879	18

A semi-structured interview was held with five participants from each experimental group to gain insight into how pronunciation activities may have improved their listening comprehension and critical thinking skills. All interviews were conducted using Skype and recorded and transcribed for further analysis. To ensure full participation, the interviews were conducted in the participants' native language, Persian. The second author met with each participant individually. We recorded all participants' responses, transcribed them orthographically, and translated them into English. As the researchers read through the learners' responses, they generated ideas and familiarized themselves with the data. Then, a manual coding process started. This involved creating initial codes and organizing them into meaningful groups. Researchers reviewed the themes to ensure their validity and accuracy concerning the data after identifying them.

Procedure

Firstly, to guarantee the homogeneity of learners in terms of the level of English proficiency, we applied OPT to select elementary participants. We assigned them equally into two experimental groups of explicit and implicit PI and one control group. To measure the listening comprehension and critical thinking level, we administered the listening comprehension test and CT questionnaire.

Participants' anxiety was minimized by a brief explanation of how the study worked. Concerning the research objectives, the study

design involved three similar learning conditions with only one variable changing: pronunciation instruction. The pronunciation instruction had two variants: (1) explicit pronunciation instruction, (2) implicit pronunciation instruction, and a control condition (no pronunciation instruction). The study was conducted during normal school time, and in between the treatment sessions, the three groups followed the same inside and outside class school-related activities, which covered no pronunciation instruction.

There were three phases: Listening presentation, practice, and production in the control and two experimental groups. Firstly, the teacher presented the listening audio track. The speed was the normal (average) English language speed (Griffiths (1990) states that a fast speech rate is 200 words per minute, the average speech rate is 150 wpm, while slow is 100 wpm). The students listened to the track. The teacher allowed students to listen to the audio track two or three times. Next, the teacher practiced the listening track through some controlled activities. For example, the teacher played and stopped the track periodically and asked students to describe the tracks. In addition, students were required to answer some questions, such as yes/no questions, or true/false statements. Lastly, the teacher wanted the students to use what they had been exposed to in a communicative activity such as a role-play, communication game, or discussions on the listening topic.

However, both experimental groups acted as treated groups, receiving 15 minutes of pronunciation training at the beginning of the listening class, performed by one of the researchers (the students' teacher). In the two experimental groups, there was a difference in the treatment based on whether pronunciation was taught explicitly or implicitly. In the explicit group, as its name suggests, there were formal explanations of pronunciation rules and phonetics. Moreover, introducing L2 phonetics and pronunciation features, students were asked to explicitly compare Persian and English pronunciation. This was with an emphasis on phonetic features related to segmentation such as the place and manner of consonants and vowels' articulation. Further, explanations of the vowels' articulatory properties and their orthographic representations were deductively and explicitly provided to raise students' knowledge of how similar vowels in terms of their orthographic representations may differ in the way they are articulated or how the letters representing two sounds are articulated differently. After that, students were engaged in in-class activities to review and practice whatever they had learned. For example, minimal pairs were presented, and students were asked to recognize which word they heard. In case of errors, explicit correction with full explanations was provided by the teacher.

In the implicit group, contrary to its explicit counterpart, there was no deductive teaching of pronunciation in terms of rules, features, or metalinguistic explanations. Authentic and enriched input in the form of native speakers' pronunciation was provided and students were asked to attentively listen to them and try to pronounce as native-like as possible. There was no comparison or emphasis on pronunciation features. As opposed to the explicit group, class activities focused more on communication. Students were exposed to a range of films, songs, and stories including the pronunciation of the target language, and were asked to engage in those exchanges. Like the kind of instruction students received, error correction was implicit without any full and explicit explanation. Recasts were made without explicit feedback being provided.

Results

Quantitative Data

To examine the research hypotheses, the normality of the distribution of research variables was first examined. Table 3 shows that the distribution of variables in this study is normal and parametric tests can be used to answer the research questions.

Table 3

Normality of Research Variables' Distribution

Group	Variable	Time	Shapiro-Wilk Statistic	df	P-Value
Control	Listening Comprehension	Pretest	0.967	17	0.764
		Posttest	0.958	17	0.593
	Critical Thinking	Pretest	0.896	17	0.058
		Posttest	0.902	17	0.074
Implicit	Listening Comprehension	Pretest	0.941	17	0.331
		Posttest	0.865	17	0.089
	Critical Thinking	Pretest	0.825	17	0.085
		Posttest	0.931	17	0.228
Explicit	Listening Comprehension	Pretest	0.970	17	0.819
		Posttest	0.914	17	0.117
	Critical Thinking	Pretest	0.933	17	0.248
		Posttest	0.964	17	0.710

Regarding the homogeneity of groups' variances (P-Value of Test of Homogeneity of Variances= 0.45 >α=.05 and 0.35>0.05) presented in Table 4, the researcher used a one-way ANOVA test to analyze the learners' level of critical thinking and listening comprehension in control, explicit & implicit groups before pronunciation instruction (Table 5). Considering the results, it can be said that before pronunciation instruction, learners' critical thinking ability and listening comprehension were not different in the control and experimental groups (F (2,48) = 0.009, p>0.05 and F (2,48) = 0.1.11, p>0.05).

Table 4

Test of Homogeneity of Variances

	Time	Levene Statistic	df1	df2	Sig.
Critical Thinking	pre	.818	2	48	.447
listening comprehension	pre	1.075	2	48	.349

Table 5

ANOVA test of Critical Thinking and Listening Comprehension in Pre-test

	Model	Sum of Squares	df	Mean Square	F	P-Value
Critical Thinking	Between Groups	0.275	2	0.137	0.009	0.991
	Within Groups	743.412	48	15.488		
	Total	743.686	50			
Listening Comprehension	Between Groups	4.79	2	2.40	1.11	0.34
	Within Groups	103.978	48	2.17		
	Total	108.772	50			

At first, tests of Equality of Covariance Matrices and Homogeneity of Variances were performed, and the assumptions were met. (F (12, 11165.54)= 1.76, P-value >0.05) (Table 6), (F (2,48) = 6.22, P-value >0.05) (Table 7, listening comprehension) and (F (2,48) = 2.10, P-value >0.05) (Table 7, critical thinking). Therefore, the One-Way MANOVA test was run.

One condition for using MANOVA multivariate analysis of variance is that variance-covariance matrices must be homogeneous. Box's

M test for covariance equality can be used to check this condition (Table 6) (P-value>0.05).

Table 6

Box's Test of Equality of Covariance Matrices

Box's M	F	df1	Df2	P-Value
23.160	1.75	12	11165.54	0.06

One of the inferential statistics for measuring variance equality in several independent groups is using Levene's statistic and performing a test called "Levene's Test". According to Table 7, the homogeneity of variances for listening comprehension is 0.07> 0.05 and for critical thinking is 0.14> 0.05 which means the homogeneity of variances is established.

Table 7

Test of Homogeneity of Variances

Variables	F	df1	df2	P-Value
Listening Comprehension	6.22	2	48	0.07
Critical Thinking	2.10	2	48	0.14

Table 8 shows pronunciation instruction significantly improved listening comprehension and critical thinking (F (6.00, 86.00) = 115.612 <0.01). Eta Square is 0.89, which means that the effect of pronunciation instruction was 89%.

Table 8

Multivariate Tests

	Value	F	Hypothesis df	Error df	Sig	Partial Eta Squared
Wilks' Lambda	0.12	115.612	6.00	86.00	0.00	0.89

Table 9 shows pronunciation instruction improved participants' listening comprehension and critical thinking (p<0.01). The estimated partial Eta Squared for listening comprehension is partial η^2 =0.96 and critical thinking is partial η^2 =0.68.

Table 9

The Result of Covariance Analysis

Source		Sum of Squares	df	Mean Square	F	P-Value	partial η^2
Group	Listening Comprehension	648.30	2	324.15	472.61	0.00	0.96
	Critical Thinking	816.44	2	408.22	47.38	0.00	0.68
Error	Listening Comprehension	30.85	45	0.69	-	-	-
	Critical Thinking	387.71	45	8.62	-	-	-
Corrected Total	Listening Comprehension	841.16	51	-	-	-	
	Critical Thinking	1587.41	51				

The estimated marginal means showed that the explicit group (Estimated Marginal Mean=17.70) performed better in listening comprehension than the implicit group (Estimated Marginal Mean=10.81) and the control group (Estimated Marginal Mean=9.33). And the explicit group (Estimated Marginal Mean=82.81) performed better in critical thinking than the implicit group (Estimated Marginal Mean=75.52) and the control group (Estimated Marginal Mean=73.21) (Table 10).

Table 10

Estimated Marginal Means

	Group	Estimated Marginal Mean	St. Error
Listening Comprehension	Control	9.33	0.20
	Implicit	10.81	0.20
	Explicit	17.70	0.20
Critical Thinking	Control	73.21	0.72
	Implicit	75.52	0.72
	Explicit	82.81	0.72

Qualitative Data

We analyzed the qualitative data obtained from the interviews thematically. From the interviews with participants in the explicit group, three main themes (phonological awareness, listening improvement, & a sense of being analytic) emerged regarding their opinions about the effectiveness of explicit pronunciation instruction. And from the interviews with participants in the implicit group, one main theme (listening improvement) emerged regarding their opinions about the effectiveness of implicit pronunciation instruction. An explanation of each theme was supported by key quotations from learner interviews.

Phonological Awareness (Explicit Group)

I understood the pronunciation differences between different syllable words. The session helped me review my awareness of English vowels, especially the differences between the alphabet and relative vowel sounds and how they affect pronunciation (Participant ID: 106)

I can recognize some words pronounced similarly. I can speak for long stretches with intonation and connected speech (Participant ID: 102).

I realized that knowing what words to emphasize in a sentence is so crucial that it could change the meaning of the whole sentence! This is something I did not pay attention to before (Participant ID: 108).

Listening Improvement (Explicit & Implicit Groups)

Explicit Group

If we have proper pronunciation, we can understand what they [English speakers] are saying. If we can identify the words they say, we can understand the content (Participant ID 103).

I noticed the pronunciation features learned in class when practicing listening and paid more attention to them so I could listen better and understand better (Participant ID 106).

The combination of activities in the pronunciation instruction sessions helped me practice my pronunciation skills (Participant ID 104).

Despite my strong belief that intense listening would enhance listening comprehension, I realized that awareness of language mysteries is crucial to improving listening comprehension. My listening ability was very poor, and I had no idea how to improve it. The idea of paying attention to the sound system was new to me. I learned some amazing things about listening that I had never heard or noticed before. I think being aware of some rules and features made me more aware of what's going on around me in general (Participant ID: 105).

My listening comprehension improved after pronunciation instruction. I understand the tracks better because I know the sound system. I have become more proficient in the language because of this awareness (Participant ID: 108).

Implicit Group

Films, songs, and stories played before the audio tracks helped me understand the tracks. There was a vague sense of familiarity. Although I felt some levels of awareness, it was not conscious (Participant ID: 1019).

I understood audio tracks better after watching films, listening to songs, and reading stories. This strange sense of vague awareness appealed to me (Participant ID: 1022).

A Sense of Being Analytic (Explicit Group)

Hearing and understanding what was said was difficult for me. Therefore, I could not listen, analyze, and understand a variety of authentic inputs at the same time. This caused me to lose track and not follow. But this class with its pronunciation rules and explanations allowed me to think clearly and analytically.

Now I can interpret various common input data correctly as I hear them. I think this course helped me consider all sides and avoid concluding too hastily. I think I am more analytical now.

Discussion

The current study showed the impact of pronunciation instruction on the critical thinking and listening comprehension of EFL learners. A comparison between explicit and implicit PI instruction revealed that explicit PI was more effective in fostering learners' critical thinking and listening comprehension. When pronunciation features were introduced and practiced during PI instruction, students' attention, consciousness, and awareness were activated. In addition to improving pronunciation, PI activates a sense of awareness of difficult-to-perceive features of the target language sound system (Kissling, 2018). As mentioned by Bakhtiari Moghadam et al. (2021), the first step to becoming a critical thinker is exposure. The acquired knowledge or awareness can later be applied to analyze and evaluate the received input (listening to audio tracks in this study).

When exposed to the material, learners' background knowledge should be engaged (Mayer, 1983; Bakhtiari Moghadam et al., 2021). The importance of metacognition should be stressed and encouraged (Halpern, 2003). The explicit group benefited from different clarifications regarding meta-linguistic issues, which increased the learners' understanding of segmental rules. Schmidt (2001) has referred to the distinction between direct and indirect types of teaching as the following: *Understanding* is regarded as in-depth learning of the rules, which is different from *observing*. As the implicit group was not provided with any meta-linguistic elucidations, thus it was not clear to what degree their awareness of English language phonetic rules was at the understanding level, as it was for the explicit group. To put it simply, comprehending the rules of language is crucial for learning to be shaped. Several studies have reported that some listening difficulties are related to phonological problems as well as syntactic and lexical knowledge (Sutrisno, 2018). In his view toward L2 listening, Ngo (2019) believed that we cannot regard listening as a natural skill to be mastered on its own, but it is an ability that needs direct awareness and instruction. Regarding learners' language development, those studies which are in line with the present article's findings have indicated that direct teaching of pronunciation is more beneficial than indirect forms of PI (Ghorbani et al., 2016; Khaghaninejad & Maleki, 2015; Khanbeiki & Abdolmanafi-Rokni, 2015; Lord, 2005). According to Wipf (1985), if only for a short period teachers lead their students to consciously attend to sound features of the L2 system, it seems more advantageous than just providing them with sounds of a second language, hoping that they will discover those features spontaneously.

The obtained outcomes from the present study are in line with the findings of Vandergrift and Baker (2015), who found a significant correlation between bringing the sound segment level to the learners' attention and second language listening comprehension. A direct correction was also found to be more beneficial than indirect modifications in this study because modifications might be misinterpreted as a verification of the main idea of the students' message rather than a disconfirmation of the structure, especially if the students are not linguistically well-knowledged enough to perceive the differences between their productions and the target language structure as it is indicated by some other researchers (Ammar & Spada, 2006; Lyster, 1998; Nabei & Swain, 2002). Unlike our findings, some scholars have concluded that indirect pronunciation teaching is more successful in developing the learners' language features (Kissling, 2013; Shamiri & Farvardin, 2016). According to Peltekov (2020), the contrasting evidence regarding the hypothetical advantages of instruction can be attributed to various features of pronunciation being presented to the students along with variables such as students' age and the duration of the instruction. With due attention to such factors, it is very difficult to generalize the dissimilar impacts of implicit and explicit pronunciation instruction.

Besides, the qualitative analysis showed that pronunciation instruction increased phonological awareness, listening improvement, & a sense of being analytic among participants in the explicit pronunciation group. And pronunciation instruction increased listening improvement among implicit pronunciation group participants. Critical thinking and listening comprehension are both complicated skills, and the relationship

between these skills is mentioned in some studies (see Elekaei et al., 2016; Myers & Dyer, 2006). Comprehension of an aural recording involves several complex skills, including the ability to interpret the intended message from the input and make inferences to critique arguments. These are core topics in critical thinking instruction. Consequently, critical thinking and listening comprehension can be argued to be intrinsically linked. This means that when someone thinks critically about something and attempts to learn something effectively, they must also think critically about what they learn. Using convincing evidence, the critical thinker evaluates, assesses, and evaluates persuasive information (Omidvar & Shukumar, 2013). As a result of these attributes, students can solve academic problems logically, reflectively, and precisely (McPeck, 2016) and make a shift from passive and blind imitators to active and sharp content creators (Utriainen et al., 2016).

The need to engage students in critical thinking is expounded in nearly all subject matter contents. The results of our study support the hypothesis that explicit PI instruction is more effective than implicit instruction for the activation of students' task-based and global awareness. This is consistent with prior studies that short-term, intensive, explicit instruction is a viable means for developing some skills that transfer to scenarios that individuals are likely to encounter in daily life (Moseley et al., 2005). Our findings are especially encouraging as they indicate that helping students learn critical thinking skills can be done without a comprehensive restructuring of the high school curriculum. A program such as the one described here could be offered during the school day without seriously disrupting the school's already tightly packed curriculum.

Conclusion

An explicitly-focused approach to pronunciation instruction benefits students in the incipient stage of learning these skills by making specific strategies abundantly clear to them. Adding supplementary methods of instruction to the classroom to help students develop listening comprehension and thinking skills is essential for success in school, at work, and in everyday life. Students can be educated in ways that prepare them to negotiate the complexities of modern life, not only within the boundaries of school but also beyond them. This can be done through explicit instruction in academic skills. The results of the current study provide insights into how explicit instruction can give English language learners the ability to listen and think critically about the received information. Moreover, what is revealed as a point of novelty regarding the scope of CT, is the influence of raising learners' awareness regarding some features of the English language sound system on L2 listening and CT. In this way, explicit instruction leads the students to form a reasonable opinion on matters around them.

The current study had some limitations. The comparatively small sample size of participants in each group can be referred to as the first limitation of this experiment. One more limitation to discuss was the limited list of phonological features, which was representative of only a small part of the English phonological system. Since the features used in this paper might not be the most significant ones for listening to take place, a wide range of segmental and suprasegmental features in PI can be explored in future studies. For further research, the general consequences of instruction should be investigated over a longer period. Next, delayed posttests were not used to measure learners' performance over time. The present work was not able to examine the consequent change made through instruction due to the absence of a delayed posttest. Therefore, a delayed posttest can be addressed by future research. A potential direction for future research may be to conduct the same study with participants with different proficiency levels. Finally, learners' attitudes concerning indirect and direct PI can be investigated by components of qualitative research methods.

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