The Effect of ICPT on Elementary Level Iranian EFL Students' Pronunciation Accuracy and Accent Appropriateness

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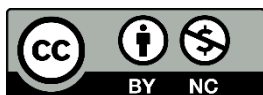
Abstract

This article investigates the effects of a homework-based pronunciation training method called Innovative Cued Pronunciation Training (ICPT) on Iranian EFL learners' pronunciation and accent skills. It reviews the historical and theoretical background of L2 pronunciation instruction and the use of technology to enhance it. Accordingly, it employs a quasi-experimental study with three groups of elementary-level learners who received different pronunciation instruction over five weeks. The study measures the learners' comprehensibility and accentedness at the word and paragraph levels using oral production tests and collected data using a questionnaire to obtain information about the learners' backgrounds and perspectives. The results show that ICPT units improved the learners' pronunciation skills significantly compared to the control group and were as effective as in-class pronunciation training. The article presents the implications of these findings for L2 pronunciation instruction and how ICPT units can address the gap between pronunciation research and practice by offering a flexible, cost-effective, and enjoyable teaching method for learners and teachers.

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Mohammadreza Mohammadzadeh, Aram Reza Sadeghy Benis, The Effect of ICPT on Elementary Level Iranian EFL Students' Pronunciation Accuracy and Accent Appropriateness

21

Introduction

Having a native-like accent and pronunciation in L2 is essential for many reasons, such as communication, cultural exchange, and credibility (Kogan et al., 2021; Martin & Jackson, 2016; Sung, 2016). However, a native-like accent is hard to achieve, and non-native speakers face many challenges and biases because of their foreign accents (Tan et al., 2021). Therefore, pronunciation training should be included in EFL instruction and curriculum to help learners improve their pronunciation proficiency with explicit and systematic guidance on segmental and suprasegmental features of language (Saito & Plonsky, 2019).

Pronunciation and accent instruction is often neglected in the classroom due to various reasons such as prioritization of intelligibility, lack of standardized methodology, lack of time, and teacher unwillingness or unpreparedness (Nguyen & Newton, 2020; Pennington, 2021) and also the lack of equipment needed in the classroom to teach pronunciation (Afshar & Asakereh, 2016). However, there are a lot of activities and research in pronunciation studies nowadays, with many online resources and journal articles based on SLA and applied linguistics theories. However, most of the studies focus on adult L2 learners and not on young L2 beginners who have more potential to achieve native-like pronunciation and accent (Dollmann et al., 2020; Kan & Ito, 2020).

This study investigates a home-work-based pronunciation training called ICPT, which is based on Cued Pronunciation Readings (Tanner & Landon, 2009) and a more advanced version called innovative Cued Pronunciation Readings (iCPRs) (Martin, 2016). ICPT aims to improve segmental and suprasegmental pronunciation proficiency and comprehensibility of elementary-level Iranian EFL students. ICPT is accessible via mobile phone and does not depend on teachers who often neglect pronunciation instruction due to the reasons mentioned above. This classroom-based study fills a gap in research and practice by focusing on young L2 beginners who have more potential to achieve native-like pronunciation and accent (Dollmann et al., 2020). Thus, the following research questions were proposed to investigate this method:

- Is pronunciation and accent training delivered through ICPT units effective in significantly improving Iranian elementary-level EFL learners' L2 pronunciation and accent accuracy in word and paragraph levels compared to a control group?
- Is pronunciation and accent training delivered through ICPT units (homework) as effective as face-to-face in-class pronunciation training (comparison) at word and paragraph levels?

Literature Review

Compared to other SLA areas, pronunciation research and teaching have been neglected (J. M. Levis, 2018). However, it has recently gained more attention and productivity with new journals and conferences dedicated to this field. However, there is still much to explore about the effects and effectiveness of different approaches in pronunciation instruction (Pennington, 2021). One reason for the neglect of pronunciation was the belief that it is more complicated to acquire by adult learners than other SLA areas due to the Critical Period Hypothesis (CPH), which claims that there is a biological limit for native-like L2 acquisition after puberty (Lenneberg et al., 1967). Although CPH was widely accepted in the 1970s-1990s, it has been challenged by recent studies

showing that various factors, not just age, affect the ultimate attainment in L2 pronunciation (T. M. Derwing & Munro, 2015). Today, the notion that 'the sooner to start an L2, the better' is dominant while acknowledging that it is still possible to learn L2 proficiently even after puberty. Another reason for the neglect of pronunciation was the shift towards Communicative Language Teaching in the mid-1980s, prioritizing meaning-focused over form-focused approach (Murphy & Baker, 2015). Pronunciation was assumed to improve naturally through exposure or immersion in the L2 (Kostromitina & Kang, 2021). However, this assumption has been disproved by many studies that show that learners' pronunciation does not improve without explicit instruction (Peltekov, 2020; Yenkimaleki et al., 2022) and that even study-abroad experiences do not guarantee automatic improvement of L2 pronunciation (Kostromitina & Kang, 2021). One explanation is that learners have difficulty recognizing and correcting their pronunciation errors (Isbell & Lee, 2022).

On the contrary, many studies have demonstrated that active pronunciation teaching can help improve learners' pronunciation proficiency in L2 (Meritan, 2022; Yenkimaleki et al., 2022), even for fossilized speakers (T. M. Derwing et al., 2014). Moreover, pronunciation teaching has been linked to learners' motivation, confidence, and sense of belonging (J. Levis, 2020). Therefore, it is unsurprising that pronunciation studies and practices have increased in the past few years, laying the foundation for more research in this field.

The research-practice gap in pronunciation teaching and teachers' difficulties in this domain. Some studies show how pronunciation teaching can help learners improve their language proficiency, how learners value pronunciation instruction, and how pronunciation teaching is often ignored or done poorly by teachers (T. Derwing & Munro, 2005). Derwing and Munro (2005) criticized the low attention and training given to pronunciation teaching and called for more collaboration between researchers and teachers. Other studies support Derwing and Munro's claims and reveal some reasons for the gap, such as teachers' lack of confidence, knowledge, or access to research findings (Afshar & Asakereh, 2016; Darcy et al., 2020).

Derwing et al. (T. Derwing et al., 2002) conducted a seminal study that compared the effects of teaching individual sounds (segmentals) or features like stress, rhythm, and intonation (suprasegmentals). They found that teaching these features improved learners' comprehensibility and fluency in free speech. Other studies on these features and their impact on intelligibility and accentedness confirm their findings. However, we should clarify that we never suggest teachers ignore individual sounds and that both features have a role in the L2 pronunciation classroom. There have also been recent calls in the pronunciation literature that advocate for a balanced approach that combines teaching individual sounds and features like stress, rhythm, and intonation, such as Saito (Saito, 2012), who found that studies that followed this approach usually led to improvements.

There is no doubt that technology has changed language learning and teaching, especially pronunciation teaching, by using technology to teach pronunciation (Hsu, 2015; Ketabi & Kavoshian, 2017). Different technological tools such as online platforms, media, chatbots, apps, and software offer new ways of teaching and practicing pronunciation. Computer-assisted pronunciation training (CAPT), in general, has its pros and cons, such as its potential to provide more time, input, feedback, and individualization for pronunciation practice, but also its challenges, such as its cost, reliability and pedagogical appropriateness (Olson, 2014; Yuan & Liu, 2020). There are different types of CAPT software, such as basic pronunciation training,

Mohammadreza Mohammadzadeh, Aram Reza Sadeghy Benis, The Effect of ICPT on Elementary Level Iranian EFL Students' Pronunciation Accuracy and Accent Appropriateness

23

automatic speech recognition (ASR) software, and visualization software (O'Brien, 2011). Basic pronunciation training can help with specific pronunciation issues (Hsu, 2015), ASR software can enable interaction with simulated native speakers but often gives wrong feedback (Patil & Rao, 2016), and visualization software can provide a visual representation of speech but requires expertise in reading spectrograms (T. M. Derwing & Munro, 2015). In conclusion, technology can be a valuable tool for pronunciation teaching, but teachers must be aware of its limitations and use it wisely.

Method

Participants

One hundred twenty-four learners from K-9 level classes of Shohadaye Entefazeh Public High School in Tehran were enrolled to participate in the study. All the learners' parents or legal guardians consented to participate in this study. Of these 124 learners, 74 had to be excluded because they failed to produce either pre-test or post-test audio files. After these exclusions, 50 participants met all the criteria for inclusion in the study. Table 1 shows learners' average age and self-rated proficiency for English reading, writing, speaking, and listening on a scale from 1 (very poor) to 10 (very proficient) by group.

	Treatment Group $n = 17$ $(f = 0; m = 17)$		Comparison Group $n = 17$ $(f = 0; m = 17)$		Control Group $n = 16$ $(f = 0; m = 16)$	
	M (SD)	Range	M (SD)	Range	M (SD)	Range
Age (years)	14.86 (0.62)	14-16	15.07 (0.64)	14-17	15 (0.76)	14-16

Mohammadreza Mohammadzadeh, Aram Reza Sadeghy Benis, The Effect of ICPT on Elementary Level Iranian EFL Students' Pronunciation Accuracy and Accent Appropriateness

Self-ratings (max. 10)

Reading	7.22 (2.02)	3-10	7.07 (2.25)	1-10	7.17 (2.22)	4-10
Writing	6.45 (2.01)	2-10	6.20 (2.29)	1-10	6.35 (2.16)	2-10
Speaking	6.13 (2.00)	3-10	6.07 (2.50)	1-10	5.47 (2.63)	1-9
Listening	6.18 (2.40)	1-10	6.47 (2.23)	1-10	6.70 (2.18)	2-10

Furthermore, the corresponding researcher acted as the instructor for this study. Finally, three instructors of English (3 male) acted as raters for this experiment. One of whom was the corresponding researcher, and the other two were the other English language instructors working in the same high school. They self-reported their English reading,

Mohammadreza Mohammadzadeh, Aram Reza Sadeghy Benis, The Effect of ICPT on Elementary Level Iranian EFL Students' Pronunciation Accuracy and Accent Appropriateness

25

speaking, writing, and listening proficiency at 9 or 10 out of 10 and had no hearing impairment.

Material

ICPT Units

The materials were PowerPoint presentations with 5 ICPT units, each for one of 5 conditions in K-7 to K-9 English textbooks. Each unit had perception and production sections. All words were from learners' textbooks, except for [/v/ vs. /w/ contrast]. The 5 ICPT units were:

1. /th/ allophones: [θ] and [ð]

2. [v] and [w]

3. [s] at word-initial position

4. [ŋ]

5. rising and falling intonations

The order matched the textbooks to review vocabulary. Each word had a Persian translation. Each item was from native speakers. The perception sections had accentedness detection tasks. Learners chose the native recording of a word from two options. They got feedback on the next slide. The order was semi-randomized. The items were from the Speech Accent Archive website with speaker information (see accent.gmu.edu).

Afterward, each section started with explicit information about the pronunciation focus. Metalinguistic instructions and lip close-ups were given for new sounds. For intonation, explanations and examples were given. Learners imitated native speaker recordings. Production practice began with producing the sound in isolation. Multiple speakers were used to use the findings of High Variability Pronunciation Training or HVPT (Thomson, 2018). Each word was shown in movie clips from the PlayPhrase website (see playphrase. me). Learners imitated 5 to 10 words and sentences per week. The English word and its Persian translation were on the slide— a 'Practice Review' slide listed all items with recordings. Learners practiced again and recorded themselves on the Shad app (the official remote learning application in Iran made by the Department of Education). The average file size of each lesson was 35MB, which is considered suitable for download.

In-class Pronunciation Exercises consist of 5 weeks of instruction materials, like the ICPT units. They addressed the same conditions and vocabulary items. The materials were for 20 minutes of pronunciation intervention once per week. The lesson plans had perception and production exercises, like the ICPT training. The perception materials were identical to the ICPT with multiple speakers. The instructor presented the accentedness detection exercises in PowerPoint. The learners raised one or two hands to choose the correct recording—the following slide answers. The production materials were the same as the ICPT production materials. The instructor introduced the sound and gave metalinguistic instructions. The learners exercised each sound and word out loud three times. The instructor played HVPT video clips for each word. The learners wrote down the words, practiced with their group mates, and got peer feedback. The instructor gave additional feedback if needed.

Mohammadreza Mohammadzadeh, Aram Reza Sadeghy Benis, The Effect of ICPT on Elementary Level Iranian EFL Students' Pronunciation Accuracy and Accent Appropriateness

The pre-and post-test had three tasks: word reading, sentence reading, and paragraph reading. The words were from the ICPT units. The word reading had 20 words. The sentences followed the words. The paragraph reading was a 150-word story essay with segmental and suprasegmental features. The tasks were sent as PDF and JPEG files via the Shad app. The learners recorded themselves reading the materials. They said their name, class number, and date. They read the Persian translation before recording but not in the audio files.

The language background questionnaire was adapted from Martin's (Martin, 2016). It was a standard two-page document with questions concerning biographical information like gender, age, and language learning history. Additionally, learners were asked to rate their English language proficiency in reading, writing, speaking, and listening comprehension on a scale from 1 to 10, with 10 being the best possible rating. The questionnaire was adjusted for the Iranian context and translated into Persian. It was then sent to the learners via an online Google Form link, which they were prompted to fill out.

There were two versions of the Participant Exit Questionnaire: one for the ICPT group and one for the in-class group. The ICPT questionnaire had three pages: six statements to rate, five questions with limited answers, and five open-ended questions. The in-class questionnaire had two pages: five statements to rate, three questions with limited answers, and five open-ended questions.

Procedure

Three K-9 classes in Tehran were included in this study. One class got ICPT units as homework (treatment). Another class got in-class pronunciation training(comparison). The last class received the standard curriculum. All groups had the same English instructor. The treatment and comparison groups had the same in-class and homework time. The control group got extra grammar or vocabulary practice. Data collection took place in the winter and spring of 2023. A pre-test was in week 3 of the second term; treatments were in weeks 4 to 9, with a holiday break. The posttest was in week 10.

The procedure was the same for all groups. In week 3, the researchers gave the learners consent forms, a Google Forms link, and a Shad post link. By week 4, the learners had filled out the forms and recorded their pretest audio file. The production task had three sections: word, sentence, and paragraph reading. In week 10, the researchers repeated the same procedure for the posttest. The post-test was the same as the pretest, and the post-test data was collected.

The treatment group received ICPT units as homework, while the comparison group received in-class pronunciation exercises. Both materials took 20 minutes per week. The homework procedure was for learners to download and complete the ICPT units. They recorded words and sent them to Shad's group chats. No feedback was given. The in-class procedure started with pronunciation instruction at the start of class. The corresponding author presented the lesson plan with perception and production training. The author gave feedback when needed.

The audio files were split into shorter parts using MP3cut (see mp3cut.net). Words and sentences were extracted as individual files. Paragraphs were cut to 20 seconds. Ten words, two for each condition, were randomly chosen. The raters heard the same word twice, from pretest and posttest. The final analysis had 20 words, 10 sentences, and two 20-second paragraphs per learner. Three raters, including one of the authors, rated the word and paragraph productions.

Mohammadreza Mohammadzadeh, Aram Reza Sadeghy Benis, The Effect of ICPT on Elementary Level Iranian EFL Students' Pronunciation Accuracy and Accent Appropriateness

27

Each rater spent 1 hour and 15 minutes maximum. The 50 learners were randomly distributed to the raters. One rating session was done. The raters used headsets and rated each learner on a 9-point scale for comprehensibility and accentedness. The raters were asked to rate each recording by answering the question 'How easy was it for you to understand the speaker?' which they answered on a 9-point rating scale where 1=very problematic/impossible and 9=very easy and 'How good was the speaker's accent?' which they answered in a 9-point rating scale where 1=the accent was hefty and 9=the speaker had almost no accent, and he could be a native speaker. The procedure followed similar studies in other studies (Gordon & Darcy, 2016; Martin, 2016; O'Brien, 2014). They used a Microsoft Excel spreadsheet to rate.

Results

Before analyzing rating data, the standard practice excludes learners who performed at the ceiling during the pretest. The ceiling performance for this task was set at 8 out of 9. No learner received an average comprehensibility or accentedness score higher than 7.5 during the pretest. Moreover, it was confirmed that all the raters used every point in the rating scale.

All analyses were carried out separately for measures of comprehensibility and accentedness and the word- and paragraph-level productions. Since our main interest was to see whether the type of treatment would lead to differences in comprehensibility and accentedness between the three groups at the time of the posttest, our primary analyses would target between-group differences. First, we compared the pretest scores of the treatment, comparison, and control groups using Kruskal-Wallis tests to confirm no significant differences between the groups before the treatment. We then compared posttest scores similarly and followed up the Kruskal-Wallis tests with Mann-Whitney tests to compare group pairs wherever the Kruskal-Wallis tests indicated a statistically significant difference in mean scores. Since the researchers were also interested in gains over time for each group, we finally compared pretest and posttest scores for each group using Wilcoxon signed-rank tests.

As Martin (Martin, 2016) recommended, effect sizes for between-group comparisons (e.g., treatment group vs. control group at posttest) were considered significant when $d = 1.00$, medium when $d = 0.70$, and small when $d = 0.40$. Effect sizes for within-group comparisons (e.g., treatment group at pretest vs. posttest) were considered significant when $d = 1.40$, medium when $d = 1.00$, and small when $d = 0.60$.

This table summarizes the findings:

Table 2. Summary of Findings

Between-group comparison	Within-group comparison
(at posttest)	(pretest to posttest)

	Treatment vs. Control	Comparison vs. Control	Treatment vs. Comparison	Treatment	Comparison	Control
Comprehensibility						
Word-level	*	**	n.s.	***	***	n.s.
	##	##	_	###	###	_
Paragraph-level	**	**	*	***	***	n.s.
	###	###	_	###	###	_
Accentedness						
Word-level	*	**	n.s.	***	***	**
	##	###	_	###	###	_
Paragraph-level	**	**	n.s.	***	***	**
	##	##	_	###	##	_

Note: n.s. = p > .05; * = p ≤ .05; ** = p ≤ .01; *** = p ≤ .001 – = negligible effect size; # = small effect size; ## = medium effect size; ### = large effect size

For comprehensibility at the word level, there was a significant difference between the treatment and control groups and between the comparison and control groups, but not between the treatment and comparison groups. This means that both interventions improved comprehensibility at the word level compared to no intervention, but they did not differ from each other. Treatment and comparison groups significantly improved comprehensibility at the word level from the pretest to the posttest. However, the control group showed a negligible improvement from the pretest to the posttest.

For comprehensibility at paragraph level, there was a significant difference between the treatment and control groups and between the comparison and control groups, but not between the treatment and comparison groups. This means both interventions improved comprehensibility at the paragraph level compared to no intervention. Treatment and comparison groups showed a significant improvement in comprehensibility at the paragraph level from the pretest to the posttest. However, the control group showed a negligible improvement from the pretest to the posttest.

Mohammadreza Mohammadzadeh, Aram Reza Sadeghy Benis, The Effect of ICPT on Elementary Level Iranian EFL Students' Pronunciation Accuracy and Accent Appropriateness

29

For accentedness at the word level, there was a significant difference between the treatment and control groups and between the comparison and control groups, but not between the treatment and comparison groups. This means that both interventions reduced accentedness at the word level compared to no intervention, but they did not differ from each other. Treatment and control groups significantly reduced accentedness at the word level from the pretest to the posttest. However, the control group showed a negligible improvement from the pretest to the posttest.

For accentedness at the paragraph level, there was a significant difference between the treatment and control groups and between the comparison and control groups, but not between the treatment and comparison groups. This means that both interventions reduced accentedness at the paragraph level compared to no intervention, but they did not differ from each other. Treatment and comparison groups significantly reduced accentedness at the paragraph level from the pretest to the posttest. However, the control group showed a negligible improvement from the pretest to the posttest.

Every learner in the treatment group completed the Exit Questionnaire. Table 7 provides an overview of the mean scores for the seven statements on the usefulness of the ICPT pronunciation training in the first part of the questionnaire. These statements had to be rated on a scale from 1 to 5, with one indicating "strongly disagree" and 5 indicating "strongly agree."

Table 3. Overview of the First part of the Exit Questionnaire Responses-treatment

Question No.	Statement to be rated by the learners	Mean Response (Range)
1.	I enjoyed working on the pronunciation and accent homework.	4 (2-5)
2.	I feel like I learned something from the pronunciation and accent homework.	4.2 (2-5)
3.	I feel like my pronunciation and accent in the English language improved through the homework exercises.	3.9 (1-5)
4.	I would have felt more comfortable practicing pronunciation and accent in class rather than as homework.	4.4 (3-5)

5.	The pronunciation and accent homework improved my pronunciation and accent and helped me review some vocabulary.	4.1 (2-5)
6.	If I had received teacher feedback throughout the semester, I would have taken the pronunciation and accent homework more seriously and benefited more from it.	3.8 (1-5)

Note: Statements were rated on a scale from 1 to 5, with one indicating "strongly disagree" and five indicating "strongly agree".

Results showed that the learners enjoyed working on the pronunciation and accent homework (mean = 4) and felt like they learned something from it (mean = 4.2). The learners also felt like their pronunciation and accent of the English language improved through the homework exercises (mean = 3.9), but there was some variation in their responses (range = 1-5). The learners preferred practicing pronunciation and accent in class rather than as homework (mean = 4.4), which may indicate that they valued interaction and feedback from the teacher and peers more. The learners agreed that the pronunciation and accent homework helped them review some vocabulary (mean = 4.1), which may suggest that they recognized the connection between pronunciation and vocabulary learning. The learners were somewhat divided on whether they would have taken the pronunciation and accent homework more seriously. They benefited more if they had received teacher feedback throughout the semester (mean = 3.8, range = 1-5). This may imply that some learners were more autonomous and self-motivated than others or that some learners had different expectations and preferences for feedback.

The second part of the questionnaire comprised five questions targeting the learners' behavior in working through the pronunciation and accent units, with a limited number of possible responses per question. For Question #7 (How much time, on average, did you spend on each pronunciation and accent homework?), 40% of the learners reported spending 5 – 10 minutes, 40% reported spending 10 – 15 minutes, 15% reported spending 15 – 20 minutes and 5% reported spending 20 – 25 minutes on each ICPT unit. For Question #8 (How often, on average, did you listen to the native speaker recording of each word?), 60% of the learners reported listening 1 – 2 times to each word, 30% reposted listening 2 – 3 times, 10% reported listening 3 – 5 times, and no learner reposted listening to each word more than seven times. For Question #9 (On average, how many times did you practice saying each word out loud until you were pleased with your pronunciation before you recorded yourself?), 60% of the learners reported practicing each word 1 – 2 times before recording themselves, 20% reported practicing 2 – 3 times, 15% reported practicing 3 – 5 times and 5% reported practicing more than seven times. For Question #10 (Did you enjoy the listening exercises or the speaking exercises more?), 45% reported enjoying both, 35% reported enjoying speaking exercises, and 20% reported enjoying listening exercises. For

Mohammadreza Mohammadzadeh, Aram Reza Sadeghy Benis, The Effect of ICPT on Elementary Level Iranian EFL Students' Pronunciation Accuracy and Accent Appropriateness

31

Question #11 (Do you think that one homework practice per week on each pronunciation problem was enough to help you, or would you have preferred more or less practice?), 50% reported that once per week was enough, 40% reported that once per week was not enough. They needed more homework exercises, and 10% reported that the amount of homework per week was too much and needed it to be less.

Concerning In-class pronunciation and accent training group (comparison), every learner in the comparison group completed the Exit Questionnaire. Table 8 provides an overview of the mean scores for the seven statements on the usefulness of In-class pronunciation and accent training in the first part of the questionnaire. These statements had to be rated on a scale from 1 to 5, with one indicating "strongly disagree" and 5 indicating "strongly agree."

Table 4. Overview of the First part of the Exit Questionnaire Responses-comparison

Question No.	Statement to be rated by the learners	Mean Response (Range)
1.	I enjoyed working on the pronunciation and accent instruction.	4.5 (3-5)
2.	I feel like I learned something from the pronunciation and accent exercises in class.	4.4 (2-5)
3.	I feel like my pronunciation and accent in the English language improved through the exercises.	4.2 (2-5)
4.	I would have felt more comfortable practicing pronunciation and accent as homework assignments.	3.4 (1-5)
5.	The pronunciation and accent homework improved my pronunciation and accent and helped me review some vocabulary.	4 (3-5)

Mohammadreza Mohammadzadeh, Aram Reza Sadeghy Benis, The Effect of ICPT on Elementary Level Iranian EFL Students' Pronunciation Accuracy and Accent Appropriateness

Note: Statements were rated on a scale from 1 to 5, with one indicating "strongly disagree" and five indicating "strongly agree".

Results showed that the learners generally enjoyed working on the pronunciation and accent instruction (mean = 4.5) and felt like they learned something from it (mean = 4.4). The learners also felt like their pronunciation and accent of the English language improved through the exercises (mean = 4.2), but there was some variation in their responses (range = 2-5). The learners were less comfortable practicing pronunciation and accent as homework assignments (mean = 3.4), which may indicate that they preferred more guidance and support from the teacher in class. The learners agreed that the pronunciation and accent instruction helped them review some vocabulary (mean = 4), which may suggest that they recognized the connection between pronunciation and vocabulary learning.

The second part of the questionnaire comprised two questions targeting the learners' behavior in working through the pronunciation and accent units in class, with a limited number of possible responses per question. For Question #6 (Which type of the exercises were more enjoyable?), 65% of the learners reported enjoying both listening and speaking exercises, 35% reported enjoying speaking exercises, and 5% reported enjoying listening exercises. For Question #7 (Do you believe that spending 20 minutes of in-class time per week was enough amount of time to spend on pronunciation and accent exercises in order to achieve a proper level of pronunciation and accent accuracy or more in-class time should be spent on these type of exercises?), 60% of the learners reported that they would like more time to be spent on these types of exercises, 35% of learners reposted that the time spent on these type of exercises were satisfactory and 5% reported that less time should be spent.

Discussion and Conclusion

The problem of pronunciation and accent instruction in L2 teaching and learning is that pronunciation and accent are essential for communication and integration in a secondary society. However, they are often overlooked in favor of vocabulary and grammar. This is due to various reasons, such as curriculum limitations, teacher factors, and time constraints. Moreover, there is a lack of attention to young L2 learners in research and practice, who have more potential to acquire a native-like accent than adults do. This study proposed a solution in the form of a homework-based pronunciation training method called ICPT, designed to supplement the existing material in Iranian EFL classrooms and improve the learners' pronunciation and accent skills. The overall results of this study show that ICPT units effectively improved the pronunciation accuracy and accentedness of Iranian EFL learners at both the word and paragraph levels. The results also show that ICPT units were as effective as in-class pronunciation training. These results may separately answer the research questions as follows:

RQ1: The results indicate that pronunciation and accent training delivered through ICPT units was practical in significantly improving Iranian elementary-level EFL learners' L2 pronunciation and accent accuracy in word and paragraph levels compared to a control group. This supports the hypothesis that ICPT units can enhance learners' production of L2 speech sounds and improve their pronunciation skills.

RQ2: The results show that pronunciation and accent training delivered through ICPT units was as practical as in-class pronunciation training at word and paragraph levels. This indicates that ICPT units can be a viable alternative or supplement to traditional classroom instruction, especially for young learners with more potential to acquire a native-like accent.

The results prove that ICPT units improved Iranian EFL learners' L2 pronunciation and accentedness in word and paragraph levels more than a control group. ICPT units can enhance L2 speech production and replace or supplement classroom instruction. They are helpful for L2 pronunciation accuracy in any delivery mode. This is consistent with previous studies that have found positive effects of other explicit methods of pronunciation instruction on L2 pronunciation learning (Latorza & Ambayon, 2020; Martin, 2016; Nagle & Hiver, 2023; Peltekov, 2020; Saito, 2012).

The findings also support the theoretical assumptions underlying ICPT, which are based on the speech learning model (Flege, 2007), the perceptual assimilation model (Best & Tyler, 2007), and high variability pronunciation training (Thomson, 2018). According to these theories, L2 pronunciation learning involves perceiving and producing novel sounds that are different from one's L1 sounds, then assimilating them into existing categories or creating new ones. It also helps the learners improve their perception and production of L2 sounds when exposed to various auditory inputs from native speakers. The findings also indicate that both types of instruction were effective at both the word and paragraph levels, which suggests that ICPT units can facilitate L2 pronunciation learning at different levels of complexity. This is in line with previous research that has shown that ICPT can improve L2 learners' segmental and suprasegmental features of speech (Martin, 2016; Nagle & Hiver, 2023).

As stated in the Literature Review, recent studies have found that pronunciation instruction is still neglected in the foreign language classroom (Foote et al., 2013) despite the growing number of research studies on L2 pronunciation published in the past two decades. There are many reasons for this gap between research and practice; for instance, teachers show minimal interest in learning about findings published in research journals (Wahid & Sulong, 2013), and research studies do not always address the right questions for practical implementation of pronunciation instruction (J. M. Levis, 2016; Pennington, 2021). However, the most crucial reason pronunciation instruction is still neglected in L2 classrooms is that many teachers do not feel comfortable or adequately prepared to teach pronunciation (T. Derwing & Munro, 2005; Henderson et al., 2012). Considering this reason while keeping in mind findings that have shown that learners themselves see pronunciation training as very important (T. M. Derwing & Munro, 2015) and that learners' pronunciation skills are likely to improve through training (Thomson & Derwing, 2015), it becomes clear that a solution had to be found for how to include pronunciation instruction in the standard L2 curriculum without burdening instructors. The homework-based method of ICPT investigated in the present thesis can offer such a solution for teaching. J. Lee et al. (Lee et al., 2014) warn that in the design of pronunciation interventions (and teaching materials in general), instructional costs such as time and energy spent must be balanced against the potential benefits for L2 learners. Just as with creating effective teaching material, it certainly takes some time to create ICPT units at first, but their design allows them to be easily reused and shared, making up for the time invested in their assembly. It is important to note that once the units are created, sharing them with colleagues at the same school or other institutions is straightforward, allowing many learners to benefit from the pronunciation instruction with limited

34

Mohammadreza Mohammadzadeh, Aram Reza Sadeghy Benis, The Effect of ICPT on Elementary Level Iranian EFL Students' Pronunciation Accuracy and Accent Appropriateness

instructional cost. Moreover, the method of ICPT causes little extra work for the instructor since the results of the present study have shown that corrective feedback on the instructor's part is not necessary to improve learners' pronunciation. While the instructor might still choose to provide regular or occasional feedback on the learners' recordings, the improvement in the absence of feedback is a significant finding that might motivate instructors to adopt ICPT units in their teaching. Therefore, this research suggests that ICPT units can be valuable for providing learners with systematic and explicit instruction on L2 pronunciation features. Teachers can use ICPT units as homework assignments or in-class activities to supplement their regular curriculum and to cater to different learning styles and preferences. Teachers can also monitor learners' progress and provide feedback on their performance using ICPT units if they choose to do so.

The ICPT units' design further allows them to be added to any existing curriculum. Each unit is designed to take learners 10 to 15 minutes to work on so they can be assigned in addition to other homework. Moreover, instructors can be very flexible in deciding which units to assign as homework. That is, it would be entirely possible to assign only those units that instructors deem beneficial and necessary for their learners or to assign different units based on their pronunciation problems. Thus, ICPT units are versatile in their implementation and offer multiple options to help whole classes or individual learners improve their pronunciation skills.

Researchers can also benefit from ICPT units. We suggest that ICPT units can be helpful in investigating various aspects of L2 pronunciation learning, such as individual differences, transfer effects, or learner perceptions. Researchers can use ICPT units as experimental materials or data collection instruments to explore different research questions and hypotheses.

Finally, when considering the implications of the present study, it must be noted that the learners' feedback on the ICPT method was essentially very positive. Learners reported that they enjoyed working on the ICPT units and felt their pronunciation improved through the training. Thus, the face validity of this instructional method was high, which is a desirable educational goal in foreign language instruction and can also lead to improved learner motivation (Brown & Brown, 2018).

This study has suggested some directions for future research on ICPT units for L2 pronunciation and accent learning. One question is how the learners' proficiency level affects ICPT outcomes. Future studies could compare the effects of ICPT on different proficiency levels.

Also, this study did not use feedback in ICPT units, which could have changed ICPT results. Future studies could explore whether feedback can improve the learners' perception and production of L2 sounds. Furthermore, this study did not test the long-term effects of ICPT training. Future studies could do a delayed posttest to see whether the learners can keep their improved skills. Lastly, future studies could assess how ICPT training may influence the learners' pronunciation and accent in more natural contexts. Future research could use more realistic tasks such as conversations, interviews, or presentations to measure the learners' performance in real-life situations.

Overall, this thesis aims to solve the problem of pronunciation neglect in the classroom. The researchers tested a homework-based pronunciation instruction method, ICPT, among elementary-level EFL learners. The results showed that learners' word and paragraph pronunciation and accent skills improved significantly with ICPT training. A qualitative exit questionnaire also revealed that learners liked and found the ICPT units helpful. These findings suggest that pronunciation training can be done as homework. This is important for instructors

Mohammadreza Mohammadzadeh, Aram Reza Sadeghy Benis, The Effect of ICPT on Elementary Level Iranian EFL Students' Pronunciation Accuracy and Accent Appropriateness

35

and teachers. It can save in-class time and reduce the pressure on instructors who are not confident in teaching pronunciation. As a result, this study can have a broad impact. This thesis can be applied to any EFL classroom at any level or institution. The ICPT method is designed for easy use by language learners and can supplement existing curricula with little effort by the instructors. The findings of this study connect linguistic research to L2 learning and can improve learners' L2 proficiency and oral communication skills.

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38

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39