



## THE EFFECT OF TEACHING PHONOLOGICAL RULES ON ENGLISH PRONUNCIATION AMONG IRANIAN PRE-INTERMEDIATE EFL LEARNERS

Ehsan Namaziandost<sup>1</sup>,  
Fariba Rahimi Esfahani<sup>2i</sup>  
Arash Hashemifardnia<sup>1</sup>

<sup>1</sup>PhD Student,  
Department of English, Faculty of Humanities,  
Shahrekord Branch, Islamic Azad University,  
Shahrekord, Iran

<sup>2</sup>Assistant Professor,  
Department of English, Faculty of Humanities,  
Shahrekord Branch, Islamic Azad University,  
Shahrekord, Iran

### Abstract:

This study was intended to examine the impact of teaching phonological rules on English pronunciation among Iranian pre-intermediate EFL learners. To fulfill, 50 pre-intermediate students who were studying in a private language institute in Ahvaz, Iran were selected via non-random sampling (convenience sampling). They participated in a homogeneity test (Oxford Quick Placement Test) to determine their homogeneity level. Then they were randomly divided into two groups of control (n=25) and experimental (n=25). Before starting the treatment, a validated teacher-made pronunciation test was administered to both groups as the pre-test. Then the experimental group received the treatment, which was teaching phonological rules activities and the control group received conventional instruction including examples in an implicit method. At the end of the treatment, a post-test on pronunciation was administered to evaluate the effect of phonological rules instructions to assess the participants' pronunciation improvement. At the end of the study, the analysis of the obtained data was carried out using SPSS, version 25. The obtained results indicated that there was a significant difference between the performances of both groups. The experimental group participants were found to have a better performance than the control group. Generally, the experimental group outperformed the control group. This study suggests that teaching phonological rules can help learners to learn pronunciation more easily and effectively.

**Keywords:** assimilation rules, phonological rules, English pronunciation

<sup>1</sup> Correspondence: email [e.namazi75@yahoo.com](mailto:e.namazi75@yahoo.com), [rahimi\\_fariba@yahoo.com](mailto:rahimi_fariba@yahoo.com)

## 1. Introduction

### 1.1 Preliminaries

It is extensively felt that pronunciation is one of the most overlooked dimensions of English language teaching. Truly, Harmer clarifies: *“almost all English language instructors inspire students to study grammar and vocabulary, rehearse utilitarian and practical dialog, participate in productive and plenteous skill activities and become qualified in listening and reading. Yet some of these same teachers make little endeavor to teach pronunciation in any apparent path and only give heed to it in passing”* (Harmer, 2001, p.183). With respect to this part of the language, it is momentous to comment that, as Morley elucidates, *“intelligible pronunciation is a fundamental segment of communicative competence”* (Morley, 1991, p.513). This thought proposes that teaching pronunciation is urgent to enable the students outstretch the skills that are indispensable to convey in the target language. Harmer asserts: *“pronunciation instructing not only makes students knowledgeable of various sounds and sound characteristics (and what these mean), but can also progress their speaking incredibly and endlessly”* and subsequently *“enable them to accomplish the objective of enhanced comprehension and intelligibility”* (Harmer, 2001, p.183). Thus, Kelly daresay that *“pronunciation work can, and should, be arranged”* (Kelly, 2000, p.13).

According to Kelly, *“the fact that pronunciation has a tendency to suffer from neglect may not be expected to educators lacking enthusiasm for the subject but rather to a feeling of doubts as to how to teach it”* (Kelly, 2000, p.13). Harmer includes: *“it is feasible that they are nervous of dealing with sounds and intonation; perhaps they believe they have excessively to do already and pronunciation instructing will only making things worse”* (Harmer, 2001, p.183). Regarding the competence of teachers, Kelly believes: *“many proficient teachers would authenticate to a shortage of knowledge of the theory of pronunciation and they may hence feel the requirement to enhance their executable skills in pronunciation teaching”* (Kelly, 2000, p.13). In this regard, considering teacher didactics in Europe, a research by Henderson et al., that includes English language teachers from different European countries, understood that *“teacher training in connection to the educating of English pronunciation is tremendously insufficient”* and they comment that *“this absence of teaching does not coordinate the accentuation put on English pronunciation in the Common European Framework of Reference (CEFR)”* (Henderson et al., 2012, p.23). This additionally occurs to be the case in Iran (Alessi, 2006; Balboni & Daloiso, 2011; Dawes & Iavarone, 2013).

When we talk, we do not articulate a progression of individual units of sound. Rather, we speak in an unremitting stream of sounds. In other words, the accurate discernment of the pronunciation is diverse from the including of the individual units (Sapir, 2002, p.90). But why are they not pronounced with regard to its spelling and what are their hidden structures like? To a great extent, all these have to be determined by phonological rules.

Then what are the phonological rules and what is the fundamental goal? In a nutshell speaking, the rules of phonology are the investigation of the way to generate sounds which identify with each other in various settings, and to the syntax and

vocabulary of a language, and the fundamental function, as indicated by Chomsky, is to cater a phonetic representation for each word based on its phonological representation in the lexicon and the syntactic arrangement in which it happens at surface structure (Robins, 2000, p. 161). By authenticating incommensurability between the lexical form and the phonetic form finally matriculated, we shall perceive how the phonological rules accomplish procedure of metamorphosis (Crystal, 1997, pp. 164-165).

On the whole, the rules of the phonology can vary the worthiness of individual traits, change the status of entire phonemes, and can expurgate specifications and add features. As the phonological rules are different between languages, the explanations in this paper are principally English.

Before going ahead, there is one point worth mentioning, which aids to better comprehend the tenets of phonology. Truth be told, speed and rhythm, on which the phonological rules are formed, plays a momentous role in dissimilarity between phonetic and lexical representation. For example, the customary pronunciation of *income* is [ˈin, kʌm], with primitive stress on the first syllable, secondary stress on the second syllable, and a segregated syllabic division between /n/ and /k/. When we use the word as adjective, however, in the phrase *income tax*, the pronunciation may be [ˈin, kʌm ˈtæks], but often it shifts to [ˈɪnkəm ˈtæks]. When *income* becomes part of the larger unit, *income tax*, the substitution of three stressed syllables struggles with our commonplace rhythmic models, and we attenuate the second syllable from [ʌ] to [ə]. The phrase as an entire telescopes within itself, and the quantity of time existing for the change from one syllable to the next is abridged. The tongue, however, needs a considerable amount of time to mutate from the alveolar contact of /n/ to the velar contact of /k/. If the time is too inadequate, the tongue prognosticates the velar contact by changing from /n/ to [ŋ], since the sequence [ŋk] can be made with a single contact of the tongue, instead of the series of contacts needed for /nk/.

To sum up, Phonological rules demonstrate how phonemes are acknowledged as their allophones in a given situation. Environment in phonology customarily recurses to neighboring phonemes. John Golden Smith (1995) characterizes phonological rules as mappings between two distinct levels of sound representation in this situation, the conceptual or fundamental level and the surface level. Bruce Hayes (2009) depicts them as "generalizations" about the various paths a sound can be pronounced in disparate situations. That is to say, phonological rules portray how a speaker goes from the abstract representation stockpiled in their brain, to the factual sound they verbalize when they speak. Generally, phonological rules commence with the elemental representation of a sound (the phoneme that is cumulated in the speaker's mind) and yield the ultimate *surface form*, or what the speaker indeed pronounces. For instance, the English plural *-s* may be pronounced as [s] (in "cats"), [z] (in "cabs"), or as [ɪz] (in "buses"); these forms are all congested mentally as the same *-s*, but the surface pronunciations which are deduced through a phonological rule are various.

## 1.2. Objectives and significance of the Study

Improving English pronunciation of EFL learners is the aim of the current research. Nowadays, English is the language used for international communication and speakers require to be able to exchange information effectively, both orally and in writing. The objective of this research is to identify the influence of phonological rules on pre-intermediate students' English pronunciation ability. It is expected that the findings will supply visions into how English teachers can attend to pre-intermediate school students' problems in English learning. For example, parents may learn ways to help pre-intermediate school students learn English happily and effectively. The findings of the study may help both English teachers and parents to identify pre-intermediate school students' potential risks in their English learning. For policymakers, a brief overview about the development of pre-intermediate students' phonological awareness, reading literacy, and pronunciation ability is also demonstrated, and the conclusion provides feasible suggestions for future English policy in Iran.

This study proposes implications for language educators in comforting reading pronunciation through instructing phonological rules training as Casalis and Cole (2009) clarify that phonological awareness teaching exerted an essential influence on later first grade reading for French kindergarteners. The students can boost their reading comprehension through learning phonological rules. Obtained results from this study can convince L2 experts as well as instructors that one source of L2 pronunciation problems is the lack of phonological knowledge. Through teaching and learning phonological rules, students can understand pronunciation difficulties more easily and overcome their problems.

## 1.3. Research Questions and Hypotheses

This study aimed to answer the following research questions:

**RQ1:** Does teaching phonological rules significantly affect Iranian pre-intermediate EFL learners' English pronunciation?

**RQ2:** Are there any significant differences between Iranian pre-intermediate EFL learners who were taught English pronunciation through teaching phonological rules than those who were taught traditionally?

Based on the research questions the following null hypotheses were suggested:

**HO 1.** Teaching phonological rules does not significantly affect Iranian pre-intermediate EFL learners' English pronunciation.

**HO 2.** There are not any significant differences between Iranian pre-intermediate EFL learners who were taught English pronunciation through teaching phonological rules than those were taught traditionally.

## 2. Review of the Literature

### 2.1. Theoretical Background

#### 2.1.1 Teaching Pronunciation

Most people think that pronunciation is the sounds we produce while speaking. As language speakers, we require to be able to comprehend each other with relative ease. The pronunciation patterns native speakers utilize, reverberate those popularly accepted by specific speech communities. Though most of us think in terms of speech production, the Longman Dictionary of Applied Linguistics stresses “the way sounds are comprehend by the hearer” to define pronunciation (Richards, Platt, & Weber, 1992). A stress or emphasize on hearer’s understanding is particularly related. How we pronounce words, phrases and sentences interacts to others gigantesque information about who we are, and what we are prefer, as people. Actually, pronunciation is the generation of sounds that we apply to create meaning. It contains the peculiar sounds of a language (i.e., segments), parts of speech outside the level of the single sounds, for example, intonation, phrasing, stress, rhythm (i.e., suprasegmental aspects) and how the voice is brought forth, that is, voice quality (Yates & Zielinski, 2009). As proposed by Schmitt (2002) pronunciation as a concept utilized to grab all perspectives of how we apply speech sounds for interaction. As the sound system is a complete sector of any language, there should be a place for pronunciation teaching in any language program. As Seidlhofer (1995) claims, ‘pronunciation is never a termination in itself but a tools of negotiating meaning in discourse, embedded in particular sociocultural and interpersonal backgrounds’. Indeed, pronunciation training necessitates to be instructed as an interactive interplay along with other dimensions of spoken utterances, such as pragmatic meaning and nonverbal interaction. Pronunciation is the language attribute that most easily recognizes speakers as nonnative. It is a colander via which others see them and often segregate against them. Pronunciation is more than meticulous promulgation of single vowel and consonant sounds, but involves wider dimensions of spoken language such as speed of speech, tone, pausing patterns, intonation, and even the utilize of our complete bodies as supplementary devices for getting spoken messages across. Kelly (1969) believes that the training of pronunciation has been contradictory with the instructing of grammar and vocabulary ever since it was first studied systematically shortly before the onset of the 20th century. The instructing of pronunciation is performed in plenty various ways and for diverse testimonies. Some teachers suppose that learners will learn to pronounce English with little or no straight teaching. Other instructors give ample consideration to dimensions of pronunciation training. Sometimes entire lessons may be dedicated to it; sometimes teachers deal with it verily as it levitates. Some instructors like to ‘drill’ accurate pronunciation customs, others are more interested in that their students expand comprehensibility within fluency. Advancements in the fields of phonetics and phonology from the latter half of the century are derived upon and often “watered down” for utilize in the language classroom. Celce-Murcia (2000) elucidates the significance of pronunciation has been

neglected until too lately. There are multiple scholars who have scrutinized the effects of pronunciation teaching on the segmental characteristics (vowels and consonant) of language while many researchers (e.g., Champagne Muzar, et al., 1993; Derwing et al., 1998; Hall, 1997) have concentrated on instructing suprasegmental traits of language, like stress, intonation, and rhythm-the musical features of pronunciation. Henning (1964) investigated the impact of separation training and pronunciation exercise on French sounds. Thus, it was inferred that the subjects who got contradistinction teaching without pronunciation practice could pronounce the sounds of French more meticulously than the subjects who received the pronunciation rehearsal without discernment instructing. Habibi, Jahandar, and Khodabandehlou (2013) concentrated on the effect of instructing phonetic symbols on Iranian EFL learner's listening skill and tried to investigate that phonetics teaching expanded learners listening or not. The consequences of their research uncovered that combination of phonetics training and teaching of listening is more influential in enhancing listening comprehension skill than exclusively applying prevalent methods like utilizing technology or adjusting listening procedures. Ruhmke-Ramos and Delatorre (2011) in a study examined the influences of teaching and training mixed with instruction on the understanding of the interdental fricatives-[ʃ] and [ð]-by Brazilian learners of EFL in a classroom situation. The selection for the interdental fricatives was done since these two sounds have been appeared to be hard for Brazilian Portuguese speakers. The findings revealed that participants in instruction teaching group advanced their performance from pretest to posttest more than participants in training group, despite the absence of statistical significance. The researchers inferred that pronunciation training must be eulogized in classrooms.

### **2.1.2 Phonological rules**

The connection among phonemic portrayal of a word and its phonetic representation, or how it is pronounced, is systematic and specified by phonological rules. They are actually part of a speaker's knowledge of the language. Phonological rules exert to phonemic dynasty and rectify them in diverse paths to deduce their phonetic pronunciation. They may be assimilation rules, dissimilation rules, rules that add non-distinctive characteristic, epenthetic rules that concatenate segments, deletion rules, and metathesis rules that reorder segments. Phonological rules in a language reveal that the phonemic form of words is not similar with their phonetic forms. Although the specific rules of phonology range from language to language, the kinds of rules, what they do, and the natural classes they refer to are worldwide (Fromkin, Rodman, & Hyams, 2011). Rules may be mandatory (all speakers accomplish it; e.g., identification of vowels in English) or voluntary (sometimes or some speaker perform it; e.g., insertions/deletions). Assimilation is a phonological process that revolve particularity worthiness of fragments to make them more identical, e.g., a vowel becomes [+nasal] when accompanied by [+nasal] consonant. Assimilation rules are rules that make neighboring parts more identical by multiplying a phonetic trait. For the most part, assimilation rules resulted from productive processes. There are two crucial kinds of assimilation

based on the direction in which the specifications are assimilated. They are Progressive Assimilation and Regressive Assimilation. Heretofore, a sound becomes more like the following sound. This is called Progressive Assimilation. If a sound becomes similar the antecedent sound, we characterize the process Regressive Assimilation. Assimilation rules in languages reverberate co-articulation- the outspread of phonetic properties either in the prognoses or in the prognoses of articulatory processes. The auditory impact is that words sound smoother and temperate. The speakers of various languages throughout the universe indicate the features of Assimilation in their speech production. Sometimes this Assimilation is based on particular rule and it happens in a clear situation or context but sometimes it is entirely random in nature. English Assimilation rules and other languages are excessive. For instance, the voiced /z/ of the English regular plural suffix is shifted to [s] after a voiceless sound. This is an example of voicing assimilation. In this case the value of voicing property goes from [+voice] to [-voice] due to assimilation to the [-voice] feature of the ultimate consonant of the root, as in the derivation of *cats*: /kæɪt +z/ → [kæɪts].

#### 2.2.2.2 Empirical Background

Goswami and Chen (2010) checked the impact of teaching in phonetic and phonemic diagnosis in sounds on the English pronunciation, particularly, ESL Spanish speakers. Target sounds in English assumed tough for ESL Spanish speakers were specified. The target sounds were classified into sounds having allophonic differences between the two languages; sounds having phonemic distinctions in the two languages, and sounds which are phonemes in English but hidden in Spanish. Participants in the experiential group were taught in the differences between the sounds in English and Spanish through lecture-type as well as technology-enhanced materials. The outcomes demonstrated that the intermediation had a statistically vital influence on the experimental group's pronunciation of the target sounds. Also, learners' indicated enhancement in the pronunciation of single target sounds in the following arrangement: sounds with allophonic discrimination, phonemic distinctions, and absence in the native language.

Yeung, Siegel, and Chan (2013) surveyed the impacts of a phonological awareness teaching during 12 weeks on 76 Hong Kong second language learners. The children were divided randomly to get the training on phonological awareness skills inculcated in vocabulary learning operations or comparison teaching which composed of vocabulary tasks without any phonological awareness training directly. They were examined on receptive and expressive vocabulary, phonological awareness at the syllable, rhyme and phoneme levels, reading, and spelling in English before and after the program administration. The findings displayed experimental group did significantly better than the comparison group on English word reading, spelling, and phonological awareness in general and stentorian vocabulary on the posttest when age, general intelligence and the pretest scores were controlled statistically.

Yoshikawa and Yamashita (2014) investigated the role of Phonemic awareness (PA) in the reading comprehension of L1-Japanese readers to intimately examine the relationship among PA and reading comprehension. A path analysis showed that PA makes an indirect aid to reading comprehension through decoding, which along with vocabulary knowledge straightly advocates reading comprehension. The current study furnish evidence for a role, although indirect, played by PA in L2- English reading by L1-Japanese adult readers, and thus lends support to the comprehending of the significance of pivotal phonological processing in L2 reading.

Elhassan, Crewther, and Bavin (2017) checked the use of PA to phonological decoding, visual word discernment, reading rate, and reading comprehension in 124 fourth to 6th grade children (aged 9–12 years). According to scores on the FastaReada measure of reading fluency, participants were deviated to one of three reading ability stratums: dysfluent ( $n = 47$ ), moderate ( $n = 38$ ) and fluent ( $n = 39$ ). For the dysfluent group, PA helped considerably to all reading measures except rate, but in the moderate group only to phonological decoding. PA did not impact accomplishment on any of the reading measures investigated for the fluent reader group. The consequences backup the idea that fluency is determined by a change from vigilant decoding to prompt and precise visual diagnosis of words. Although PA may be beneficial in reading improvement, the findings of the present research indicate that it is not adequate for fluent reading.

### **3. Method**

#### **3.1. Participants**

The participants of this research were 50 students who were selected from among 70 pre-university students via non-random sampling (convenience sampling) from a private language institute in Ahvaz, Iran. The participants' age range was between 13 and 15. They had been studying English as a foreign language for at least 3 years. They were pre-intermediate students proficiency level was identified based on an Oxford Quick Placement Test (OQPT). The learners were randomly divided into two experimental ( $n= 25$ ) and control groups ( $n= 25$ ). It should be s that only males were involved in this study since the researcher could easily access to them.

#### **3.2. Instruments**

The first instrument which was used in the current study to homogenize the participants' level of proficiency was OQPT. This instrument was applied to gather the data on the learners' proficiency. The OQPT consisted of two parts: Part one (1-40) deals with simple grammar and vocabulary items. Part two (41-60) concerns with a bit more difficult multiple choice items and cloze test. The students' scores are ranked from high to low and homogenizing the participants is based on the OQPT categorizing chart including 0-10 scores for beginners, 11-17 for breakthrough, 18-29 for elementary, 30-47



for intermediate and 48-60 for advanced level). The participants whose scores were between 27 and 35 participated in the study as pre-intermediate group.

The second instrument for gathering information was a researcher-made pronunciation pre-test which was designed based on the students' textbook (Family and Friends). It was a pronunciation test of 40 objective items. It included filling the blanks, true or false, and multiple choice items. Reliability and validity of the mentioned test were measured. After constructing the test, it was checked by three experts for its face and content validity. That is, to get sure about the Content Validity Index of the test items, three English teachers read through the tests and made some changes regarding the clarity, simplicity and the representativeness of items if necessary. Subsequently, the test was reclaimed and then piloted on an identical group in another institute whose course book and level were similar. After applying validation and piloting, the necessary changes and modifications to achieve item characteristics, i.e., item facility, item discrimination, and choice distribution was made in the test. At last, the test was prepared to use. Its reliability was calculated through Cronbach's alpha formula as ( $r=0.826$ ).

The third instrument which was used in the current research was a researcher-made pronunciation post-test- the rectified exemplar of the pre-test. It was administered to determine the impacts of phonological rules instruction on the participants' English pronunciation improvement. All features of the post-test were identical to the pre-test regarding time and the number of items. The only difference was that the order of questions and alternatives were changed to avoid the possible recall of pre-test answers. The reliability of the post-test was also calculated through Cronbach's alpha formula as ( $r= .799$ ).

### **3.3 Data Collection Procedures**

In the first step, OQPT was delivered to 70 students from a private language institute in Ahvaz, Iran. Based on their performance in the OQPT, 50 pre- intermediate students were chosen for the target population of the study. After selecting the target participants, they were randomly divided into two groups- one experimental group and one control group. Then, all the participants were pre-tested and then the treatment was practiced. The researcher taught the experimental group using phonological rules activities. Phonological teaching was used to train the learners realize the sounds and letters relations and pronounce correctly. In fact, the researcher taught the accurate pronunciations of words in the passages to the experimental group thorough using the CDs of the book. Then the researcher herself pronounced the words of the passages for the students and finally the clever students read the passages for the rest of the class. Explicitly, the researcher taught the phonological rules to the students; some phonological rules were followed to teach the students for example, the silent letters were taught explicitly to the learners and they were wanted not to pronounce them, for instance, the researcher said that the letter of "K" is not pronounced in the word "Know" and he wanted the students to cross out it. On the other hand, students of the control

group were deprived of the treatment. They received a traditional teaching method. The treatment kept on 12 sessions; the allocated time for each session was 60 minutes. In the first session, the students were homogenized; in the second session, the selected participants were pretested; in 9 sessions the researcher taught phonological rules to the students of the experimental group but the control group was taught through traditional methods, and in the last session, the researcher administered the pronunciation post-test to discover the possible effects of phonological rules instruction on the participants' pronunciation improvement.

### 3.4 Data Analysis Procedures

Collected data through the above-stated instruments were analyzed and interpreted according to the objectives of the study. Firstly, in order to check the normality of the data, Kolmogorov-Smirnov (K-S) test was applied. Finally, statistical tools including paired samples t-test and independent sample t-test were used to measure the impacts of the phonological rules activities on English pronunciation of the participants and finally the detailed results were depicted through different tables and charts.

## 4. Results and Discussion

Analyzing the gathered data, the Statistical Package for Social Science (SPSS) software version 25 was used.

**Table 1: Group Statistics (Pre-test of Both Groups)**

Groups	N	Mean	Std. Deviation	Std. Error Mean
Experimental group	25	15.8800	1.53623	.30725
Control group	25	15.4800	1.26227	.25245

In Table 1, the descriptive statistics of both groups are presented. The means of both groups are almost equal. The experimental group's mean score is 15.8800 and the control group's mean score is 15.4800. This means that the both groups are somehow similar since they are homogeneous at the beginning of the treatment.

**Table 2: Independent Samples T-test (Pre-test of Both Groups)**

Levene's Test for Equality of Variances		t-test for Equality of Means						
F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
							Lower	Upper

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Equal variances assumed	.736	.395	1.006	48	.320	.400	.3976	-.3995	1.199
Equal variances not assumed			1.006	46.26	.320	.400	.3976	-.4003	1.200

In Table 2, an independent samples t-test was used to show if there was any significant difference between the scores of both groups on the pre-test. Since Sig (.320) is greater than 0.05, the difference between the groups is not significant at ( $p < 0.05$ ). In fact, they performed the same on the pre-test.

**Table 3:** Group Statistics (Post-test of Both Groups)

Groups	N	Mean	Std. Deviation	Std. Error Mean
Experimental group	25	35.2400	1.50776	.30155
Control group	25	28.7600	2.38537	.47707

Table 3 reveals the descriptive statistics of both groups on the post-test. The means of the groups are different. The experimental group's mean score is 35.2400 and the control group's mean score is 28.7600. This means that the experimental group outperformed the control group.

**Table 4:** Independent Samples T-test (the Post-test of Both Groups)

	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper
Equal variances assumed	10.239	.002	11.48	48	.000	6.48	.564	5.34	7.61
Equal variances not assumed			11.48	40.53	.000	6.48	.564	5.33	7.62

Table 4.5 indicates that the difference between both groups is significant at ( $p < 0.05$ ). In fact, the experimental group outperformed the control group on the post-test. Based on this table, the null hypothesis of the study "There are not any significant differences between Iranian pre-intermediate EFL learners who were taught English pronunciation through teaching phonological rules than those were taught traditionally" is rejected.

**Table 5: Paired Samples Statistics (Pre and Post-tests of Both Groups)**

		Mean	N	Std. Deviation	Std. Error Mean
<b>Pair 1</b>	Exp. Posttest	35.2400	25	1.50776	.30155
	Exp. Pretest	15.8800	25	1.53623	.30725
<b>Pair 2</b>	Cont. Posttest	28.7600	25	2.38537	.47707
	Cont. Pretest	15.4800	25	1.26227	.25245

Based on the descriptive statistics in the table above, the mean scores of the experimental group on the pre and post-tests are 15.8800 and 35.2400 respectively. The control groups' mean scores on the pre and post-tests are 15.4800 and 28.7600 respectively.

**Table 7: Paired Samples T-test (Pre and Post-tests of Both Groups)**

		Paired Differences		95% Confidence Interval of the Difference			Sig. (2-tailed)	
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df
Pair 1	Exp. Posttest – Pretest	19.36000	2.307	.461	18.40	20.31	41.95	24
Pair 2	Cont. Posttest – Pretest	13.28000	2.653	.530	12.18	14.37	25.02	24

In the table above, paired samples t-test is used to compare the pre and post-tests of each group. Since Sig (.000) is less than 0.05, the difference between the post-test and pre-test of the experimental group is significant. Therefore, the null hypothesis of the study “Teaching phonological rules does not significantly affect Iranian pre-intermediate EFL learners’ English pronunciation” is rejected. Moreover, since Sig (.000) is less than 0.05, the difference between the post-test and pre-test of the control group is significant too.

## 5. Discussion

After analyzing the data and obtaining the results, the researcher answers the questions and compares and contrasts it with the previous studies. So the question of the present research is answered below.

**RQ1: Does teaching phonological rules significantly affect Iranian pre-intermediate EFL learners’ English pronunciation?**

After analyzing the gathered data, it was revealed that both experimental and control groups were at the same level of grammar proficiency at the outset of the study. After receiving the treatment, the experimental group outperformed the control group. This was manifested on their post-tests. Teaching phonological rules could help the experimental group to improve their English pronunciation knowledge. The findings

confirmed the results of Goswami and Chen (2010) who investigated the impact of training in phonetic and phonemic distinctions in sounds on the English pronunciation of English language learners, specially, ESL Spanish. The consequences revealed that the intervention had a statistically significant impact on the experimental group's pronunciation of the target sounds.

The most momentous result of the study was that L2 phonological awareness and L2 pronunciation were discovered be strongly related, so that high degrees of phonological awareness were revealed to be pertinent to more native-like pronunciation. Language utilize and language experience, as well as phonetic training were not found to generate a crucial relation to L2 phonological awareness, whereas L2 vocabulary size was found to be positively related.

As the current study discovered the impacts of teaching phonological rules on pronunciation so there were three vital findings. First, the instruction was indicated to simplify the acquisition of phonological awareness at syllable, rhyme and phoneme levels, expressive vocabulary, word reading and word spelling to a larger extent than the comparison training. It ought to be noticed that in the control condition there was very little accentuation on oral language exercises but rather that the emphasis was on print learning through entire word learning and copying, the typical English language training in Iran. Second, teaching phonological rules foretold developments in word reading and spelling after controlling for the influences of overall intelligence, oral language skills and the primitive ability of the learners taking part in the present study. Last, phoneme learning was indicated as the most fundamental unit of phonological awareness in elucidate starting L2 reading of Iranian EFL learners.

It is worth noting that the amount of development was the consequence of the training that lasted only for 1 session each week for 12 weeks. Students in the control group indicated very little enhancement in various phonological awareness skills and approximately none in phoneme awareness. Moreover, it has been revealed that phoneme awareness needs unequivocal and direct instruction between native English speaking children (Ehri et al., 2001). A supernatural implication of the current study is that young Iranian EFL learners are capable to learn phonological awareness skills rapidly through succinct and direct training embedded in rich language activities that are pixilated and pleasurable when carried out by class teachers in preschool situations.

**RQ2: Are there any significant differences between Iranian pre-intermediate EFL learners who were taught English pronunciation through teaching phonological rules than those who were taught traditionally?**

After collecting the data, the researcher used Paired and Independent Sample t-test to analyze them in order to find the effectiveness of teaching phonological rules on students' English pronunciation. The consequences revealed that the students who received instruction on phonological rules had better performance compared to those who were trained traditionally. The results statistically revealed that experimental group (phonological rules) group significantly did better than the control ( $p < .05$ ). The experimental group was highly motivated through watching the teaching phonological

rules. Not only did they enjoy the instruction, but also they felt satisfied with what they learned. They gained higher scores on their post-test. Teaching phonological rules is an effective way because they provide sufficient information. Moreover, teaching phonological rules captured the students' interest and raised their motivation as Mirvan (2013) stated that using phonological rules in a classroom can enhance students' interest to learn since it can expose them to a broad variegation of rules and structures that can help them comprehend similar structures in real learning process.

The results of the current study adhere to the findings of Yeung, Siegel, and Chan (2013) who examined the impacts of phonological awareness instruction on 76 EFL Hong Kong young children. The results uncovered that children who got the phonological awareness training accomplished significantly better than the control group on English word reading, spelling, and phonological awareness and expressive vocabulary on the posttest when age, general intelligence and the pretest scores were managed statistically.

## 6. Conclusion

The findings demonstrated that the teaching phonological rules treatment produced positive effects on the students' performance on the targeted English pronunciation. Based on the consequences of the statistical analysis of the collected data, it can be concluded that the instructing phonological rules activities in promoting students' English pronunciation is effective. Given the outcomes of this research, language teachers need to be persuaded that, although instruction is not a new techniques in language teaching, it should not be obliterated from the curriculum of EFL classes, and it would be reasonable to devote some time to it specifically at lower levels of language proficiency. Besides, they should go beyond using phonological rules as merely a test of pronunciation and consider its potential for helping students improve their knowledge in other zones of language and their ability in using different pronunciation patterns. This is because, when involved in pronunciation, whether individually or collaboratively, students will be encouraged to focus some of their attention on form and become involved in the utilization of more than one or all four language patterns. To conclude, teaching phonological rules appears to be a promising general method for teaching ESL/ EFL pronunciation. This technique can be easily implemented in the classroom and can be effective in focusing students' attention on target structures.

However, in this paper, as mentioned at the beginning, the illustrations of phonological rules are restricted to English. So we could not help wondering whether the rules are absolute, implying double meanings, i.e., do they apply to all the sound patterns and connected speech in English? And do they apply to all the languages in the world or a large group of languages?

Finally, although there are challenges to teaching and learning English pronunciation, it is an area essential to English language learners' communicative competence. Literature has shed light on pronunciation features to be taught and on

learners' goals and motivations for improving their pronunciation. By synthesizing present investigation and its usages into their teaching practice, teachers can assist students attain the skills they require for effective communication in English. And, it is expected that this study will equip teachers of foreign language pronunciation, specifically in Iranian schools, with insights and motives to merge pronunciation teaching into their teaching sequence, and help them expand the repertoire of traditional classroom practices and, consequently, promote pronunciation instruction.

Moreover, from above, the researcher hopes to establish a universal principle governing the use of sound in languages, which will contribute to the study of phonology and for the study of pedagogy. Though it is a tough task and needs much time and energy, this paper considers, it is necessary and beneficial.

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