AN ANALYSIS OF TURKISH UNIVERSITY LEVEL EFL LEARNERS' PRONUNCIATION OF THE DIPHTHONGS AND TRIPHTHONGS IN ENGLISH

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Approval of the Graduate School of Social Sciences

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ABSTRACT

AN ANALYSIS OF TURKISH UNIVERSITY LEVEL EFL LEARNERS' PRONUNCIATION OF THE DIPHTHONGS AND TRIPHTHONGS IN ENGLISH

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The aim of this study is to investigate the development of diphthongs and triphthongs and the influence of orthography on the acquisition of the target sounds. This thesis answers three research questions regarding the pronunciation of /oʊ/, /aʊ/, /oʊə/ and /aʊə/ by Turkish EFL learners' at different proficiency levels in English. The first research question aims to compare the pre-intermediate (PIN) and the advanced (ADV) level learners in terms of their pronunciation of the target sounds. The second one focuses on the influence of English orthography and investigates whether certain letters and letter combinations have a role in learners' pronunciation of diphthongs and triphthongs. The last research question examines learners' awareness of these sounds to see whether they perform better when they know that their pronunciation is

being tested. Three independent recording sessions were held to answer these questions. The study finds that there is a significant difference between the PIN and the ADV groups' pronunciation of diphthongs and triphthongs. It can be concluded that phonology acquisition is influenced by one's proficiency level. Regarding the English orthography, the results show that the letter "w", when it corresponds to part of a diphthong or triphthong, hinders pronunciation. Moreover, when there is one vowel letter corresponding to a diphthong or a word-final diphthong, learners tended to produce a monophthong. Learners performed better when two vowel letters corresponded to a diphthong. Finally, both groups performed better when their pronunciation was tested in isolated words, which can be related to the task itself.

Keywords: diphthongs, triphthongs, pronunciation, language proficiency

ÖZ

İNGİLİZCE'Yİ 2. DİL OLARAK ÖĞRENEN TÜRK ÜNİVERSİTE DÜZEYİ ÖĞRENCİLERİNİN İNGİLİZCE'DEKİ KARMA ÜNLÜLERİ TELAFFUZUNUN ANALİZİ

Albağlar, Necmettin Anıl
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Kasım 2015, 139 sayfa

Bu çalışmanın amacı, Türk öğrencilerin İngilizce'deki çift ünlü ve üç ünlü hecelerdeki gelişimini ve ortografinin bu seslerin edinimi üzerindeki etkisini araştırmaktır. Tez, farklı seviyelerde İngilizce öğrenen Türk öğrencilerin /oʊ/, /aʊ/, /oʊə/ ve /aʊə/ hecelerinin telaffuzuyla ilgili üç soruyu cevaplamaktadır. İlk soru orta altı seviye ve ileri seviye öğrencilerin bu sesleri telaffuzunu karşılaştırmaktadır. İkinci soru ise İngiliz dilinin yazım yapısına odaklanıp, bazı harf ya da harf öbeklerinin orta altı ve ileri seviye öğrencilerin çift ünlü ve üç ünlü heceleri telaffuzunda bir etkisi olup olmadığını cevaplamaktadır. Son araştırma sorusu, orta altı ve ileri seviye öğrencilerin telaffuzlarının test edildiğinden haberdar olduklarında çift ünlü ve üç

ünlü hecelerle ilgili farkındalığına bakmaktadır. Bu soruları cevaplamak için üç bağımsız ses kaydı yapılmıştır. Çalışmanın sonuçları çift ünlü ve üç ünlü hecelerin telaffuzuyla ilgili orta altı ve ileri seviye öğrencilerin arasında anlamlı bir fark olduğunu göstermiştir. Sesbilim ediniminin öğrencinin yeterlilik seviyesinden etkilendiği sonucuna varılabilir. İngilizce'nin ortografik yapısına bakıldığında, "w" harfinin bir karma ünlünün bir kısmını sembolize ettiğinde telaffuz zorluğu yarattığı sonucuna varılmıştır. Ayrıca, bir çift ünlü hece tek bir ünlü harfle sembolize ediliyor ya da sözcük sonunda yer alıyorsa, öğrencilerin tek ünlü hece ürettikleri gözlemlenmiştir. Öğrenciler çift ünlü hecelerin iki sesli harfle sembolize edildiği durumlarda daha iyi sonuçlar vermişlerdir. Son olarak, her iki grup da sözcük bazındaki telaffuz testinde daha iyi sonuçlar vermiştir ki bu durum öğrencilerin telaffuzlarının test edildiğinden haberdar olmalarına bağlanabilir.

Anahtar sözcükler: çift ünlü hece, üç ünlü hece, karma ünlü, telaffuz, dil yeterliliği

To my beloved father, to whom I owe everything,
Ahmet Özcan Albağlar

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I would like to thank the Department of Basic English of METU for providing me with the necessary equipment and accommodating me and my participants for as long as we needed to during the data collection process. I am also grateful to my colleagues who let me use their students in my study and our technician, Baki Aktaş, for spending hours with me in the recording studio.

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TABLE OF CONTENTS

LIST OF TABLES

TABLES

LIST OF FIGURES

FIGURES

CHAPTER 1

INTRODUCTION

1.1. Introduction

Forming a true notion of L2 phonology at receptive and productive levels is a task that most learners fail to achieve (Flege & Fletcher, 1992; Flege, Munro, & MacKay, 1995; Young-Scholten, 1995). Reasons vary. Age, teaching practices and studying methods are without doubt important factors. Another common explanation is the influence of L1 systems on L2 phonology acquisition (Flege, 1980, 1992 & 1995; Odlin, 1989; Pater & Tessier, 2003). Selinker (1972) coined the term "interlanguage" for the system which L2 learners develop through the acquisition process. In this study, Turkish learners' pronunciation of diphthongs and triphthongs will be analyzed in an attempt to understand such developmental stages that they go through.

Phonological difficulties that L2 learners have are diverse. Hismanoglu (2009) reported that Turkish learners had difficulty with the pronunciation of the inter-dental sounds of English. Barboza (2007) revealed that Brazilian teachers of English pronounced English front vowels differently from native speakers of English do because of L1 interference. The current study solely focuses on the production of vowel sounds. Consonants and perception of sounds are out of its scope.

McMahon (2002) states that vowels particularly cause difficulty in both perception and production since the features which are used to classify and understand consonants are not helpful in distinguishing between vowels. Vowel perception is no

easy task because vowels are subject to change in speech tempo (McCully, 2009). Although perception is not in the scope of this study, it is crucial to understand that perception and production are correlated (Flege et al., 1999). Several studies on vowels support this point (Flege et al., 1997; Flege et al., 1999; Ingram & Park, 1997).

English diphthongs and triphthongs cause difficulty for Turkish learners. One reason might be that Turkish does not have diphthongs (Yavuz & Balcı, 2011). Even when there are two vowels that follow each other, they do not possess the qualities of English diphthongs. In English, the first part of the diphthong is usually more prominent than the last. In fact, the last part is often so brief and transitory that it is difficult to determine its exact quality (Ladefoged & Johnson, 2011). Diphthong production in English has been studied by a number of scholars (Amos, 2011; Balas, 2009; Enli, 2014; Kitagawa, 2012; Mlinar, 2011; Tasko & Greilick, 2010).

In the current study, for the words "home" and "open", for instance, pronunciations such as /hom/ and /'opən/, /o:pən/ were produced very often. Many participants pronounced the words "go" and "so" as /go/, /go:/ and /so/, /so:/. Triphthongs in the words "lower" and "power" were produced by an insertion of voiced a bilabial fricative /β/; /lo:βər/, /louβər/, /pa:βər/, /pauβər/. This study analyzes pronunciations as such and reveals how Turkish learners pronounce English diphthongs and triphthongs in order to understand the processes that Turkish learners go through while acquiring second language phonology.

From the perspective of World Englishes, mutual intelligibility is sufficient for communication (Canagarajah, 2007; Dalton & Seidlhofer, 1994; Jenkins, 2005; Kentworthy, 1987; Timmis, 2002). That is, as long as one can express their thoughts and be comprehensible to others, they do not need to go any further on their

pronunciation skills. In his study, Sobkowiak (2002) revealed that 67% of the participants regarded grammar and vocabulary to be more important than pronunciation. Similarly, Majer (2002) found out that the teacher trainer college students of English ranked pronunciation errors the lowest in importance. However, according to Fraser (2000a), pronunciation is by far the most important sub-skill of speech production. Accurate pronunciation is an important component of language without which no efficient oral communication is possible (Szpyra-Kozlowska, 2014). Some native speakers of English are judgmental and less tolerant of those with accented speech (Greenwood, 2002) and having an accent might even lead to difficulties in finding employment (Fraser, 2000a). Hinofotis & Bailey (1980) stated that communication breakdowns are mostly caused by pronunciation, rather than vocabulary or grammar. In our case, the two native speakers who evaluated participants' performance in the current study asserted that pronunciations such as /nov/ or /nav/ for the word "now" made no sense for them, saying that it "throws them off". We will analyze such learner errors and argue that they may actually harm mutual intelligibility.

As mentioned before, an important factor that determines a learner's second language phonology acquisition is their background; that is, language-specific details of L1 that influence L2 phonological perception and production (Pater & Tessier, 2003). Several studies were carried out to show the influence of L1 on L2 phonology acquisition (Flege, 1980; Leather & James, 1991; Major, 1994; Odlin, 1989). In Turkish, such studies are scarce but they exist. For example, Varol (2012) revealed the influence of Turkish sound system on learners' pronunciation in English.

Selinker's (1972) Interlanguage Hypothesis (IL) suggests that learners of a second language develop certain systems that resemble neither L1 nor L2. Systems as such

are formed by learners in an attempt to be comprehensible and to understand other speakers. IL considers several factors that influence L2 acquisition. Since IL acts as a bridge between L1 and L2, an important distinction that must be made when teaching a second language is language specific comparisons. Among the many differences between Turkish and English is the level of grapheme-phoneme correspondence. Turkish has a transparent orthography (Davis, 2005; Erdener & Burnham, 2005) meaning that a given letter or letter combination corresponds to the same sound(s) most of the time (Ellis et al., 2004). Regarding vowel sounds, every vowel letter always corresponds to the same monophthong, short or long. Consider these pronunciation-word pairs:

“çok” - /tʃok/ (much, many, lots)
“okul” - /o’kʊl/ (school)
“havlu” - /hav’lʊ/ (towel)

English, on the other hand, has a non-phonemic orthography, where the correspondence between letters and sounds is rather irregular (Frost & Katz, 1992). See the following samples from the current study (for the table of words, see appendix A):

“soul” - /soʊl/
“house” - /haʊs/
“road” - /roʊd/

The influence of orthography on pronunciation has been emphasized by several studies (Carr et al., 1979; Ellis et al., 2004; Escudero & Wanrooij, 2010; Katz & Feldman, 1983; Lems, 2012; Timmer & Schiller, 2012; Varol, 2012). Such studies

prove the importance in understanding the relationship between graphemes and phonemes in languages with different correspondence levels; that is opaque or transparent orthographies.

1.2. Purpose of the study

Native-like pronunciation has long been a field of great interest to me. Having been teaching English as a second language to mostly Turkish learners, I realized in the first years of my career that Turkish learners of English have trouble producing the two closing diphthongs /oʊ/, /aʊ/ and the triphthongs /oʊə/, /aʊə/.

This study attempts to reveal how Pre-Intermediate (PIN) and Advanced (ADV) level learners of English at a university in Turkey produce the diphthongs /oʊ/, /aʊ/ and the triphthongs /oʊə/ and /aʊə/. The reason why the present study dwells on two different proficiency levels is to reveal whether learners exhibit a developmental pattern as one would expect and whether learners with higher proficiency in English are more aware of these sounds or not. Advanced level learners might have had native speakers as their teachers, spent time at an English speaking country or attended a more proficient school in language teaching before coming to their current school. Assuming that such experiences could increase learners' perception and therefore production, the study attempts to see if higher level learners produce these diphthongs and triphthongs differently than the lower level learners.

Another purpose of the study is to investigate whether and how orthography might be influencing learners' pronunciation. This issue will be analyzed in order to see how certain letters or letter combinations influence learners' pronunciation of diphthongs

and triphthongs. We take the comprehensible or perfect pronunciations as a sign of the representation of the target phonemes; we assume that orthography is an extra-linguistic factor interacting with the acquisition of phonemes. With this two-pronged approach, we hope to expand the scope of phoneme learning and emphasize the inhibitory or facilitative role of orthography on the acquisition of sounds.

In the present study, there are 10 participants from each proficiency level: Pre-Intermediate and Advanced (ADV). Three recording sessions are held with each participant: The first recording is a read aloud task where the target words are embedded within sentences; the second recording is a blank-filling task where participants are supposed to fill in the blanks orally with the target words; the third recording is another read aloud task where all the stimuli are given in isolation and are to be pronounced by the students. The stimuli were presented through a PowerPoint presentation. Two native speakers of English assess the recordings of the participants. The assessment criteria are prepared on the basis of these native speakers' judgement on a pilot study carried out with three students. The raters listened to these recordings and assessed the pronunciations on the basis of a Likert scale (See Appendix B for the Likert scale). Statistical analyses are done in order to answer the research questions (See section 1.4. for the research questions).

1.3. Significance of the study

The present study is significant for a few reasons. To the best of my knowledge, it is the first study that empirically analyzes Turkish learners' pronunciation. Therefore, it will provide the first statistical information regarding the pronunciation of diphthongs and triphthongs by Turkish learners. To the best of my knowledge, there are no

studies on lower level learners on their production of diphthongs and triphthongs. Moreover, the study defined some orthographic categories (See Appendix A) that will help understand the effects of orthography on learners' pronunciation. These are peculiar to this study, merely resulting from the researcher's observations. These categories can serve as an example for similar ones in the future.

The results of the study will shed light on how much of a factor orthography may be regarding pronunciation. Teachers of English can use this information to raise awareness in their classes. They can also use this information to reflect on their own utterances as they are models in class.

All in all, this study displays how Turkish learners pronounce diphthongs and triphthongs in English, whether they show a developmental pattern and whether orthography as an extra-linguistic factor influences pronunciation along with the reasons that lie behind learner errors. It will provide quantitative and qualitative information on learner's performance on specific diphthongs and triphthongs: /oʊ/, /aʊ/, /oʊə/ and /aʊə/. Other dipthongs/tripthongs are out of the scope of the present thesis.

1.4. Research questions

The general research questions that guided this study were the following:

1) Is there a significant difference between the PIN and the ADV learners regarding their pronunciation of diphthongs and triphthongs?

2) Does orthography play a significant role in learners' performance in producing the target sounds?

3) Is there a significant difference in learners' performance between the read-aloud and the word pronunciation tests?

1.5. Definition of terms and abbreviations

Diphthong: A type of vowel that results includes a movement from one vowel to another (Ladefoged & Johnson, 2011. p. 92)

Triphthong: A type of vowel that includes a glide from one vowel to another and then to a third, all produced rapidly and without interruption (Roach, 2001. p. 23).

Glide: the transition from one vowel sound to another.

GA: General American English

1.6. Outline of the study

The present study includes six chapters. Chapter 2 presents a review of the literature in the field. Chapter 3 provides the methodology of the study, along with detailed information on participants, data collection and data analysis. In Chapter 4, the statistical outcomes of the study are presented. Chapter 5 provides a detailed discussion of the results. Finally, Chapter 6 dwells on conclusions and implications of the results on teaching English as a second language.

CHAPTER 2

REVIEW OF LITERATURE

2.1. Overview of the chapter

This chapter firstly introduces the English vowel system along with diphthongs and triphthongs. Secondly, Turkish vowel system is presented, followed by a note on the lack of diphthongs on triphthongs in Turkish. Next, the learning of diphthongs and triphthongs is discussed. This is followed by an introduction of the Interlanguage Hypothesis and studies related to it. Then, the related literature on the influence of orthography on L2 phonology acquisition is presented. Finally, the chapter concludes with experimental studies related to diphthongs and triphthongs.

2.2. English vowel system

Ladefoged and Johnson (2011) describe vowels as sounds which are produced with a relatively unobstructed airstream when compared to consonants. The manner and place of articulation are bases of understanding vowels. In fact, doctors ask the patients to say “ah” when they want to see the back of their mouth since this vowel sound provides an unobstructed look (Roach, 2010).

The classification of English vowels is usually done on the basis of:

- the position of the tongue (back/front dimension and high/low dimension)
- the position of the lips (rounded/unrounded)
- the length of the sounds (tense/lax)

For example, the vowel in the word 'you' is a tense and rounded high back vowel, meaning the lips are rounded and the back of the tongue is positioned high in the mouth. Below is the vowel space of an American national newscaster provided by Ladefoged and Johnson (2011).

In this section of the study, monophthongs will be presented shortly in the light of McMahon's (2002) classification of vowels. The explanations and examples below describe the vowels in General American English (GA). Only GA vowels are introduced and sounds that are unique to the other accents of English are excluded since this study dwells on GA diphthongs and triphthongs.

Tongue position

Front vowels

Front vowels are produced by raising the front part of the tongue close to the roof of the mouth.

/ɪ/ as in 'pit, fit'

/e/ as in 'get, dread'

/æ/ as in 'cat, flat'

/i:/ as in 'heed, sea'

Back vowels

Back vowels are those that are produced by raising the back of the tongue.

/ɒ:/, /ɑ:/ as in ‘hot, thought’

/ʊ/ as in ‘put, good’

/u:/ as in ‘food, snooze’

Central vowels

In addition to front and back vowels, there are central vowels that are produced by raising the body of the tongue toward the joint of the hard and soft palate (p. 70).

/ə/ as in ‘ago, foreign’

/ɜ/ as in ‘perfect, girl’

Tongue height

High vowels

As mentioned before, regarding the height of the tongue in the mouth, vowels are classified as high and low. High vowels are exemplified below.

/ɪ/ as in ‘pit, fit’

/i:/ as in ‘heed, sea’

/ʊ/ as in ‘put, good’

/u:/ as in ‘food, snooze’

Low vowels

The following are examples for low vowels. The tongue is in a lower position in the mouth while producing these sounds.

/æ/ as in ‘cat, flat’

/ɒ:/, /ɑ:/ as in ‘hot, thought’

Mid vowels

There are still other vowels with qualities between high and low vowels, which are called mid vowels since the tongue is neither high nor low in the mouth.

/e/ as in 'get, dread'

/ə/ as in 'ago, foreign'

/ɜ/ as in 'perfect, girl'

/ʌ/ as in 'cut, jump'

The mid vowels can also be subclassified as high-mid and low-mid, regarding their nearness to being high or low (McMahon, 2002, p. 71).

Lip rounding/pursing

The position of the lips is another determinant in classifying the vowels. If, in addition to tongue movement, the lips are rounded, such vowels are called rounded. If, however, the lips are spread or neutral, the sound is called a neutral, spread or unrounded vowel. The sounds mentioned in the previous categories all belong to either rounded or unrounded category.

/ɒ:/, /ɑ:/ as in 'hot, thought'

/ʊ/ as in 'put, good'

/u:/ as in 'food, snooze'

Vowel length

The final category is related to length, which includes long and short vowels. In English, there is a tense/lax distinction regarding vowels. Tense vowels are longer and have more extreme tongue and lip position. Lax vowels, on the other hand, could be considered to require less effort to produce.

Determining the length of a vowel is crucial in that it supports phoneme distinction in minimal pairs. Long vowels are usually transcribed with a colon (:).

Long vowels

/iː/ as in 'heed, sea'

/uː/ as in 'food, snooze'

/ɒː/, /ɑː/ as in 'hot, thought'

Short vowels

Short vowels in GA are as follows:

/ɪ/ as in 'pit, fit'

/e/ as in 'get, dread'

/æ/ as in 'cat, flat'

/ʊ/ as in 'put, good'

/ə/ as in 'ago, foreign'

/ʌ/ as in 'cut, jump'

In the next section of the review, GA diphthongs and triphthongs will be introduced.

2.2.1 Diphthongs

Ladefoged and Johnson (2011: 92) describe a diphthong as a sound that involves a change within one single vowel**.** Kelly (2000)'s definition of a diphthong is 'a combination of vowel sounds'. These vowel-like sounds consist of a movement or glide from one vowel to another (Roach, 2010, p. 17).

Being in the vowel category, diphthongs are similar to tense/long vowels in terms of length. However, there are two parts to a diphthong; one starting point and a different end point. Ladefoged and Johnson (2011) states that these beginning and ending points are different from simple vowels. Figure 1 provides the glides necessary for diphthongs.

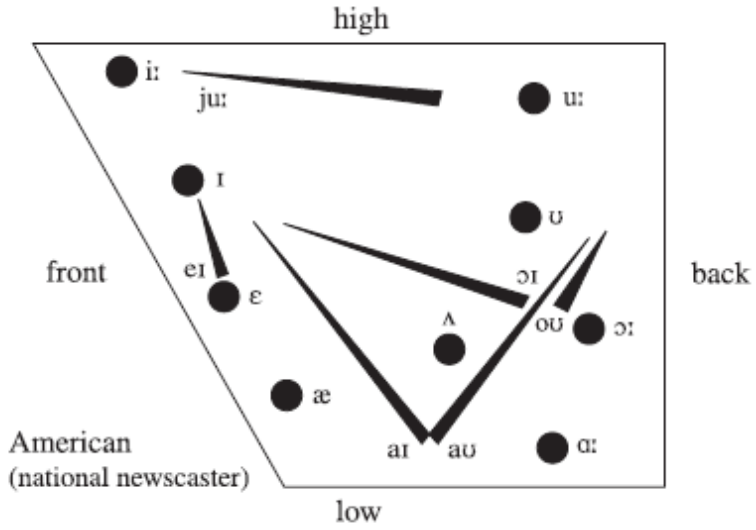

Figure 1 General American vowel space by Ladefoged and Johnson (2011)

The first part of a diphthong is longer and more prominent than the second (McMahon, 2002). To illustrate, a careful pronunciation of the word 'how' will involve the closing diphthong /aʊ/. Although the IPA transcription will include both vowel sounds, the second part of the diphthong will be pronounced shorter and weaker. The tongue glides toward the second vowel but does not quite get there. Simply put, the /ʊ/ in 'put' and the one in 'low' do not have the same quality.

Diphthongs, like other phonemes, are categorized according to their place of articulation. Centering diphthongs are called 'centering' because the ending point is a central vowel called 'schwa'. Similarly, closing diphthongs are called 'closing' since

they glide towards a closer vowel (closer than the first vowel of the diphthong) such as /i/ and /ʊ/. McCully (2009) called the closing diphthongs non-centering diphthongs since their tongue movement end in a non-central position (p. 140). In this study, they are called closing diphthongs.

It is worth mentioning, however, that tongue movement is not the only requirement when producing a diphthong. Most times, lips and jaw are included in the process. A short and simple word such as 'no' requires a rapid and uninterrupted motion of the tongue, the lips and the jaw.

Table 1 below is a classification of the diphthongs in English. Centering diphthongs are usually replaced with a /r/ sound in GA.

Table 1 Diphthongs by Roach (2010)

Centering			**Closing**				
ending in /ə/			ending in /ɪ/			ending in /ʊ/	
/ɪə/	/eə/	/ʊə/	/eɪ/	/aɪ/	/oɪ/	/oʊ/	/aʊ/
here *dear*	*there* *hair*	*lure* *pure*	*make* *shame*	*die* *high*	*boy* *point*	*goat* *no*	*now* *round*

The diphthongs on which this study focuses are the closing ones ending in /ʊ/. These sounds are produced by a back-gliding of the tongue towards a closer vowel. That is, the glide from the first vowel to the second is formed by moving the tongue to the high-back position. The tongue moves closer to the top and the lips are rounded. And the second part of the diphthong is produced at the back of the mouth in the velar area where the glide /w/ is produced (Dobrovolsky et al., 1997, p. 36). To be more exact, the diphthong /aʊ/ starts with the open vowel /a/ and is followed by a glide towards

/ʊ/. The diphthong /oʊ/ starts with the open vowel /o/ and glides towards /ʊ/. This particular diphthong starts and ends with lip-rounding, and therefore there is no large movement. However, since the first vowel of the phoneme /aʊ/ is an open vowel, the glide necessitates a larger movement than /oʊ/ does (Roach, 2010, p. 18), as well as more effort on the lips and the jaw. Phonetically, for L2 learners, this might make the diphthong /aʊ/ more audible and visible while /oʊ/ could be more challenging since the movement from the first vowel to the next is not as extensive. See Figure 2 for the movement required for each diphthong.

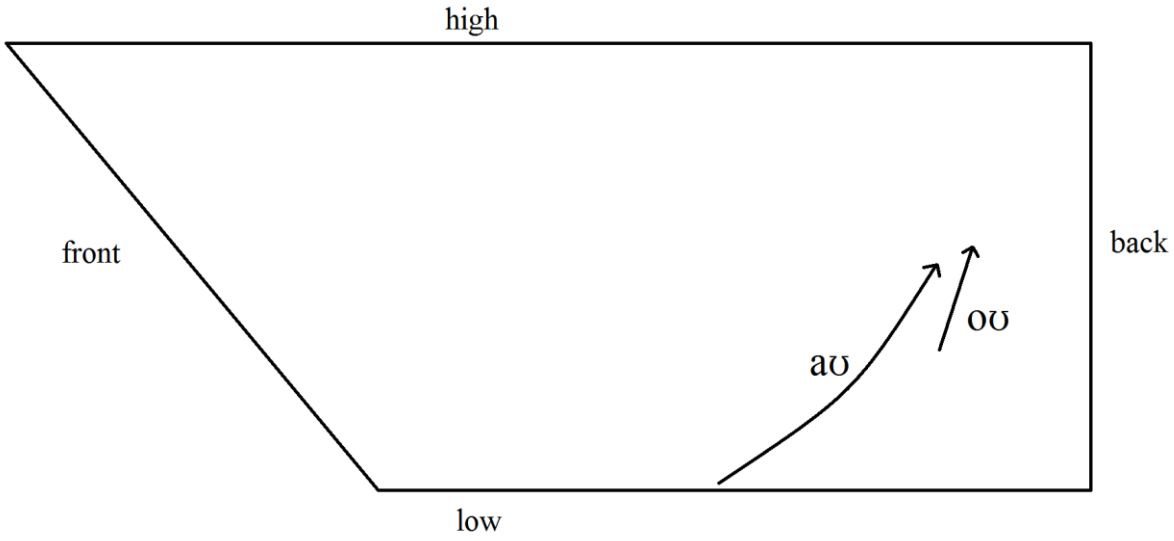

Figure 2 Diphthong movement for /oʊ/ and /aʊ/ by Ladefoged and Johnson (2011)

The next section introduces GA triphthongs.

2.2.2 Triphthongs

Triphthongs are the most complex English sounds in vowel category. They require a glide from one vowel to another and then to a third without interruption (Roach, 2010). There are five triphthongs in GA and they are all composed of a closing diphthong and a schwa sound at the end.

According to Roach, triphthongs are hard to hear and distinguish. They are subject to change in speech tempo and may be speaker dependent, which might be another factor behind perception problems (McCully, 2009). They do not appear often in English. Many words are pronounced with a triphthong only after a suffix is added to the end. Triphthongs are more likely to be considered as monosyllabic sounds in words such as tower /taʊar/ or power /paʊar/. However, in words which involve a suffix such as player /pleiar/ or lower /loʊar/, they are more likely to be perceived as bisyllabic sounds (Roach, 2010). Table 2 below shows examples for triphthongs.

Table 2 Triphthongs by Roach (2010)

/eɪə/	/aɪə/	/ɔɪə/	/oʊə/	/aʊə/
layer, prayer	*higher, buyer*	*loyal, royal*	*lower, mower*	*towel, power*

The articulation of triphthongs is similar to that of diphthongs in that they consist of multiple vowel sounds and there is no interruption in between. Once a closing diphthong is completed, the vowel is carried to a central position by one last motion of the tongue.

The next section introduces the Turkish vowel system.

2.3. Turkish vowel system

Turkish has a very symmetrical vocalic system with eight vowels (Göksel & Kerslake, 2005). The IPA symbols used for each Turkish vowel in this section are as follows: “a” /a/, “e” /e/, “ı” /ɯ/, “i” /i/, “o” /o/, “ö” /œ/, “u” /u/, “ü” /y/.

This section summarizes the manner and places of articulation of Turkish vowels based on Demircan (2015), Göksel & Kerslake (2005) and Yavuz & Balcı (2011). Figure 3 below is a snapshot of the vowel space of Turkish.

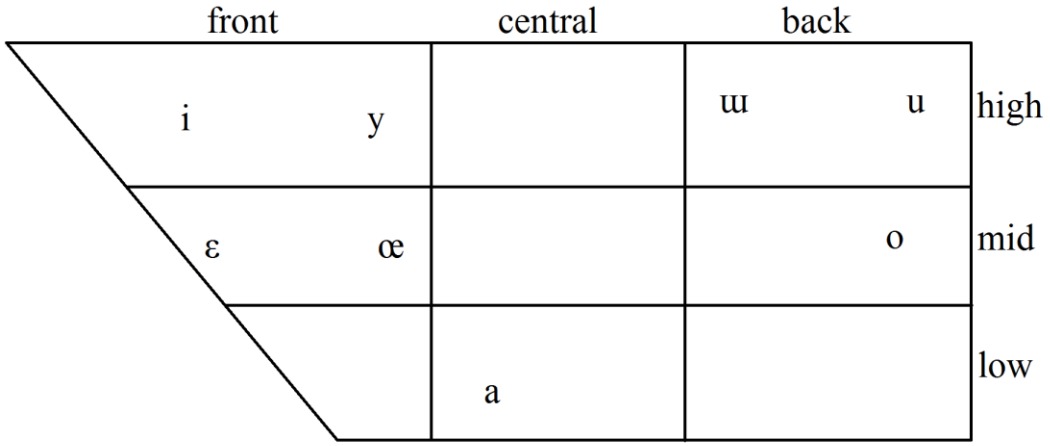

Figure 3 Turkish vowel space adapted from Yavuz & Balcı (2011)

Similarly, Demircan (2015) categorizes /e, i, *œ, y/* as front-tongue and hard palate vowels. /a, ɯ, o, u/ are classified as back-tongue and soft palate sounds (p. 22).

/a/

/a/ is a low, central and unrounded vowel. It is the widest of all the vowels in Turkish (Demircan, 2015).

/a/ t**a**r**a**k ‘comb’, s**a**l ‘raft’, duv**a**r ‘wall’

/a/ has a fronted allophone, /ạ/, which occurs in loan words when it precedes or follows the palatal consonant /c/ (similar to /dʒ/ in English) and /l/.

/ạ/ il**a**n ‘advertisement’, k**ağı**t ‘paper’

/e/

The vowel /e/ has three forms in Turkish. The first one is the mid, front, closed /e/. Below are examples from Turkish words that include this sound:

/e/ d**e**li ‘crazy’, k**e**ndi ‘own, self’, göml**e**k ‘shirt’

Göksel et al. (2005) adds a lower counterpart of /e/, using the phonetic symbol /ɛ/ to represent the sound and giving the examples below. This sound occurs in the word-final position in Turkish.

/ɛ/ il**e** ‘with’, küf**e** ‘large basket’, bal**e** ‘ballet’

The last allophone of /e/ is a more open counterpart of it, /æ/. Some Turkish words that include this vowel are as follows:

/æ/ b**e**n ‘I’, s**e**n ‘you’, pencer**e**m ‘my window’

/ɯ/

The vowel /ɯ/ is a high, back, unrounded vowel.

/ɯ/ şık ‘smart’, akıl ‘mind’, hatıra ‘memory’

/j/

The /i/ sound is the front counterpart of /ɯ/, still being high and unrounded.

/i/ f**i**k**i**r ‘opinion’, ş**i**rket ‘company’

A higher form of /i/ can be seen in word-final position in Turkish.

/I/ verg**i** ‘eraser’, ger**i** ‘back’

/o/

/o/ is a mid, back, rounded vowel.

/o/ k**o**l ‘arm’, s**o**kak ‘street’

In loan words, a palatalized allophone /o̟/ is used, especially next to /l/.

/o̟/ l**o**kanta ‘restaurant’, gol ‘goal’

/œ/

/œ/ is also mid and rounded, but a front counterpart of /o/. Moreover, the lips are slightly more pursed compared to /o/.

/œ/ g**ö**z ‘eye’, s**ö**nük ‘pale’, ş**ö**hret ‘fame’

/u/

/u/ is a rounded, high, back vowel. It sounds like the vowel in the words ‘good, who’ in English.

/u/ k**u**mar ‘gambling’, s**u**rat ‘face’

A palatalized /u̟/ occurs in loan words next to the palatal consonants /c/ and /l/.

/u̟/ l**u**gat ‘dictionary’, b**u**lvar ‘boulevard’

There is also a more lowered version of /u/, which occurs in word-final position.
/ʊ/ dol**u** ‘full’, sor**u** ‘question’, ş**u** ‘that’

/y/

Finally, /y/ is a high, front, rounded vowel.
/y/ s**ü**re ‘time’, m**ü**racat ‘application’

A more lowered allophone of /y/ occurs in word final position. Göksel and Kerslake (2005) use the symbol /Y/ for this particular sound (p. 11).
/Y/ köt**ü** ‘bad’, köyl**ü** ‘villager’

Long vowels

There are also long vowels in Turkish, mostly in loan words either from Arabic or Persian. Below are some examples for such loan words:

/a:/ kir**a** ‘rent’, s**a**lim ‘safe’
/e:/ t**e**sir ‘effect’, t**e**min ‘acquisition’
/i:/ n**i**met ‘food’, S**i**nem (a female name)
/u:/ s**u**ret ‘copy’, ş**u**be ‘office’

Lack of diphthongs and triphthongs in Turkish

Turkish does not have diphthongs (Yavuz & Balcı, 2011, p. 39). To justify this argument, Yavuz and Balcı give the following example: The Turkish word “ay” (moon) and the English word “eye” are similar in their pronunciation. The English word contains a diphthong, but the Turkish word does not. The Turkish word is transcribed as /aj/, a vowel and consonant; however, the English word is transcribed as /ai/, a diphthong. The difference comes from the syllable structure. When added

the suffix –I, for instance, the syllables of the word "ay" are divided as "a-yı". If there were a diphthong in this word, the vowel would have stayed together in the same syllable regardless of the suffix because a diphthong is considered to be a single vowel sound (Yavuz & Balcı, 2011, p. 40-41).

The loan words that originally have a diphthong are borrowed through the non-diphthongization of the vowel (Lewis, 1985). The Arabic /au/ diphthong, for instance, appears as /av/ or /ev/. For instance, *qawm* "people" is borrowed as *kavim*. *Qaws* "bow" is being used as *kavis*, and *hawd* "pool" as havuz. Turkish also borrowed two English sporting terms, *foul* and *round*, which appear as faul /favl/ and raunt /ravnt/, with the /v/ being pronounced as a semivowel (Lewis, 1985, p. 10).

Demircan (2015) argues that Turkish speakers also glide from one vowel to another when they speak and that such sounds are gliding vowels in Turkish. (p. 25). This happens in various situations. Demircan states that /ai, aj, ei, ej/ combinations can be considered glides from one vowel to another. However, the qualities of such glides differ from those in English. When a glide from one vowel to another occurs in Turkish, both vowel sounds retain their individual qualities. There are also other cases where two vowels follow each other in Turkish. When a word ends in a vowel sound and the following word has a word-initial vowel sound, these two vowels can be pronounced with no air interruption by many speakers. In this case, in a sentence like "bana uzat" (pass it/that to me), the /a/ and /u/ can be pronounced as /au/ although they are in distinct syllables –even separate words (Demircan, 2015, p. 76). As mentioned earlier, however, each vowel maintains its original sound –to a great extent. One other case where Turkish vowels are connected to one another is through the use of a voiced bilabial fricative /β/ in words such as "davul (drum), kavun (melon), döv (beat), vur (hit)". Demircan (2015) calls this bilabial fricative a "half-vowel" and a gliding sound (p. 55).

It can be argued that such formations are as close as it gets to English diphthongs or triphthongs. However, as explained above, vowel gliding in Turkish is either done by a friction in between vowels or the qualities of the two vowels do not display those of English diphthongs or triphthongs. Nevertheless, it would not unfair to suggest that technical analysis of such vowel combinations in Turkish would help a better understanding of the articulation of such sounds.

Göksel & Kerslake (2005) also suggest that even when there are vowel sequences formed as a result of an intervening 'ğ', they are made up of two distinct syllables and are not diphthongs or long vowels. In these vowel sequences stress falls on the second syllable. In the words 'soğuk' (cold) and 'doğa' (nature), the 'ğ' is not pronounced by many speakers, which leads to the following utterances respectively; /so`ʊk/, /do`a/. Even then, however, these sounds are not equivalents of English diphthongs. Although the phonetic transcriptions of these words involve two respective vowels; there is no prominent part like in English. Both vowels are produced clearly in Turkish whereas English diphthongs are single sounds with a strong and a weak part as mentioned before. Moreover, the syllable stress is on the second vowel in Turkish. In English diphthongs, the second vowel in a diphthong is only slightly pronounced –let alone being stressed. Similarly, when there is a word-final "ğ" in Turkish, the suffixation of a vowel-initial suffix to this word leads to syllable skipping (Demircan, 2015, p. 29). e.g. "dağ (mountain), sağ (right, alive)" would be "da-ğa, sa-ğında" etc.

The fact that Turkish does not have diphthongs or triphthongs in its sound system does not necessarily mean Turkish learners of English cannot pronounce such sounds. Although it may be a contributing factor, the lack of these phonemes in Turkish may not be the sole reason behind learner errors. In the next section, the learning

diphthongs and triphthongs will be discussed along with various factors that might influence learners' pronunciation.

2.4. Learning diphthongs and triphthongs

Diphthongs and triphthongs in English can be difficult to master for L2 learners. For Turkish learners of English, the challenge might be that there are no diphthongs or triphthongs in Turkish sound system (Yavuz & Balcı, 2011). However, transfer from L1 cannot be the *only* source of errors in L2 phonology acquisition. Researchers have pointed out that difficulty of English vowels several times. McMahon (2002) noted that vowels are particularly difficult to perceive and produce since the features which are used to classify and understand consonant are not helpful in distinguishing between vowels. Ladefoged and Johnson (2011) maintained that the "brief and transitory nature" of the last part of a diphthong makes it difficult to determine its exact quality (p. 92). Roach (2010) suggests that only in about the last quarter of the diphthong does the glide to the second vowel become noticeable. This short and weak quality of the second part of a diphthong may be one of the reasons behind learning difficulties. Nevertheless, it is important to remember that the second part of a diphthong is still audible because if the tongue does not glide toward the second vowel, we would produce what sounds like /ha:/ for 'how' and /lo:/ for 'low'. Indeed, Roach (2010) states that L2 learners of English tend to produce monophthongs instead of a diphthong.

The case is not much different for the triphthongs. In fact, considering that a triphthong contains three vowel sounds that are different from each other, it could be assumed that the perception and production of triphthongs would be even more

difficult for L2 learners. McCully (2009) asserted that triphthongs are challenging in particular because they are subject to change in speech tempo.

Difficulties in learning diphthongs might be sound-dependent as well. It is less common for Turkish learners to come across pronunciation or perception difficulties for the diphthongs /ei/, /ai/, /oi/, /eiə/ and /aiə/. However, /oʊ/, /aʊ/, /oʊə/ and /aʊə/ seem to be more challenging for them. This issue will be dealt with in detail in the Discussion chapter.

Interlanguage

Selinker (1972) asserted that L2 pronunciation patterns could not simply be explained by the differences between L1 and L2 (also see Adjemian, 1976; Corder, 1967; Ellis, 1986; Tarone, 1979). Selinker, without ignoring the role of transfer in L2 acquisition suggested that L2 learners develop a system called the "interlanguage" (IL), which provides them with the ability to understand and produce L2 utterances. Selinker stated (p. 96):

> "There exists a separate linguistic or psycholinguistic system (interlanguage) which forms in the mind of the learner and may take the form of a pidgin and which may develop into a language in its own right."

Selinker's work gave rise to the awareness that non-transfer errors could be explained by universals or developmental factors, just like those processes in L1 acquisition. Selinker (1992) stated that "the recognition of the existence of an interlanguage

cannot be avoided and that it must be dealt with as a system, not as an isolated collection of errors" (p. 231).

Since language learning is a progressive process, IL systems are also subject to change in time; i.e. they can be transitional (Adjemian, 1976, p. 308; Ellis, 1986, p. 50). This transitional side of interlanguage points to the fact that learners at different proficiency levels may go through different processes. As learners learn more and their competence change, the interlanguage may also change; however, there is also stability (Ellis, 1986, p. 48). Similarly, Saville-Troike (2006) considered interlanguage to be a systematic, dynamic, variable, and reduced system. IL is governed by the learner's internal grammar, which can be accessible through the analysis of the language used by the learner at any time during L2 acquisition. However, this internal grammar is subject to frequent change, which makes IL dynamic. The fact that different contexts result in different language patterns means that IL is variable. The reduced characteristic of IL refers to the simpler use or omission of structures or patterns of the target language (p. 41).

Selinker (1972) suggested five psycholinguistic processes that shape interlanguage: transfer from L1, overgeneralization in L2, transfer of training, strategies of communication, and strategies of learning. Transfer from L1, which was proposed as the only factor behind learner errors, plays an important role in interlanguage systems; however, it is not the only shaper of learner language (Tarone, 1994; in Selinker 1972). Overgeneralization in L2 is another process that learners go through, where a learner exhibits evidence that s/he has mastered a rule without the exceptions to it (e.g. adding –ed to all verbs when using the past tense). Transfer of training stems from teaching practices, syllabi, and textbooks. Tarone (1994) argues that this learning is sometimes successful and sometimes errors might occur. Strategies of

communication help resolve communication problems when interlanguage falls short in the process. Tarone (1994) gives the example that a learner may call an electrical cord "a tube" or "a kind of corder that you use for electric thing I don't exactly the name" etc. Such patterns may become permanent parts of the learner's interlanguage (p. 749). Strategies of learning are those that learners use consciously in order to master the L2 (e.g. using flashcards, using mnemonics etc.), which may result in success or error. Memorization, for instance, may lead to confusion at times; especially when lists of words get longer in time.

Fossilization, where the development of the linguistic abilities stops developing, is core to the concept of interlanguage. Beginning to learn a second language after puberty leads to difficulties in developing a native-like linguistic system (Selinker, 1972; Tarone, 1994; also see Critical Age Hypothesis by Lenneberg, 1967). According to Selinker (1972), fossilization is a linguistic mechanism which speakers tend to keep in their IL productive performance, regardless of their age or the amount of instruction. Wangdong (2005) suggests that some learner-related factors that cause fossilization are learners' age, affective domain and language transfer, while there are other factors such as teaching practices, social and ideological culture and environmental factors. The current study focuses on the developmental side of phonology acquisition as well as orthographic factors that might influence the processes learners go through. However, this is not to affirm that it ignores such aspects of L2 acquisition as fossilization, internal or external factors or other psycholinguistic processes. Such processes can be discovered by the collection, identification, description, explanation and evaluation of learner errors (Ellis, 1997). In the current study, learners' errors were collected and they were identified and described by native speakers. Further research will show the role of other factors in the development of learners' pronunciation of diphthongs and triphthongs.

Apart from the factors mentioned above, this study dwells on the effects of orthography on pronunciation of diphthongs and triphthongs. In the next section, the relationship between orthography and phonology will be discussed.

2.5. Effects of orthography on L2 phonology acquisition: processing accounts

The alphabet is the primary tool for specifying the pronunciation of words (Katz et al., 1983, p. 157). Frost (1998) argues that there is a close relationship between the symbols in an alphabet and the sounds that they refer to. However, the manner in which orthographies represent their spoken language is language-dependent (p. 74).

In some languages, letters, or graphemes, do not always correspond to the same sounds, or phonemes. Languages where grapheme-phoneme correspondence is direct are regarded to have a shallow, phonemic or transparent orthography. Italian, Polish, Finnish, Spanish and Turkish are examples of orthographically phonemic languages. English, French and Chinese, on the other hand, are examples to opaque orthographies, where grapheme-phoneme correspondence is not so reliable (Lems, 2012).

Katz and Frost (1992) introduced the Orthographic Depth Hypothesis, which suggests that transparent orthographies are 'user friendly' in that decoding them is relatively easier. Once the grapheme-phoneme relationships have been learned, even the pronunciation of new words or even non-words can be predicted easily (Carr et al., 1979; Lems, 2012). On the other hand, when the L2 orthography is opaque, learners tend to apply various strategies in order to predict the correct pronunciation of the words in the target language (Ellis et al., 2004).

The study by Ellis et al., (2004) showed significant differences between transparent and deep orthographies in terms of the performances of the participants who read aloud the stimuli. Learners who learned to read in transparent orthographies, where the grapheme-phoneme relationship was strong, seemed to rely on phonological information while decoding words. However, participants who learned to read in more opaque orthographies, where the grapheme-phoneme relationship was rather weak, depended more on the clues inside the words. Ellis et al., (2004) also observed that learners from transparent orthographies tend to read longer words more slowly, which means they focus on the letters one by one. Learners from opaque orthographies, on the other hand, were not influenced by the length of the words regarding their reading speed (p. 441).

A number of studies on word naming (Fiez, 2000; Frost, 1994; Frost, Katz, & Bentin, 1987) found out that in opaque orthographies, such as English, Chinese, or Hebrew, learners make use of their lexical knowledge. In transparent orthographies, such as Serbo-Croatian or Italian, grapheme-phoneme correspondence and other non-lexical cues drive word naming and therefore the process is claimed to be faster.

Paulesu et al. (2000) stated that there are 1120 representations of 40 sounds in English whereas there are only 33 representations of 25 sounds in Italian. They concluded that in reading, two processes were essential: "letter-to-sound conversion" and "access to a lexicon of orthographic patterns" to resolve ambiguities in irregular orthographies like English. Paulesu and colleagues (2000) revealed that Italian participants read words and non-words faster than the English subjects. In this study, Positive Emission Tomography (PET) scans were used in order to show the parts of the brain that processes phonological information and that names objects and processes word meanings. The results showed that Italians participants' portion of the

brain processing phonological information (planum temporale) was greater than that of the English. For English readers, especially while reading non-words, the part of the brain that is used for naming the objects and processing the meaning of words was used more (left posterior inferior temporal region and in the anteriormost part of the inferior frontal gyrus) (p. 91).

The reason behind such results is that orthographies with grapheme-phoneme correspondence compensate for this by offering morphological cues within the words themselves. It might be necessary, as Benczik (2001) points out, to include the teaching of spelling and the study of grammar more effectively and allocate more time for these.

The study by Lems (2012) reveals the difference between the learners of English with a transparent L1 orthography (e.g. Polish) and those with an opaque L1 orthography (e.g. Bulgarian). Lems draws the conclusion that, especially at lower proficiency levels, learners whose L1 orthography is relatively transparent may require more time to become proficient at decoding and pronouncing English words accurately (Lems, 2012, pp. 67-69). Previous ERP studies give us an insight on what happens inside the brain while reading sentences aloud. According to a study on visual word recognition by Carreiras et al. (2009), Spanish readers first process the words orthographically, which is later followed by a rapid activation of phonological codes (p. 1118). This is a language-specific finding, considering that Spanish is a language with a strong grapheme-phoneme correspondence. The results may, in fact, be different in other languages. Previous studies on languages with deep orthographies such as English (Pollatsek et al., 1992) and Hebrew (Frost et al., 2003) revealed that the activation of phonological processing took place relatively earlier.

Escudero et al (2010), in a study where the presence of orthographic and auditory inputs were compared, revealed that Spanish learners' orthographic experience in L1 influenced the phonological processing of the target vowels in L2, Dutch. Burgos et al., (2013) also conducted a study on Spanish L2 learners' error patterns and showed that Spanish learners of Dutch were influenced by the shallow orthographic nature of their mother tongue while producing the target words in Dutch. Orthographic interference was observed in frequent mispronunciations of /ə/ as /ɛ/ or /e/ when the phoneme is represented by the grapheme 'e'.

Chinese students were more likely to know the pronunciations of characters that they have been taught in school but have difficulty in guessing the pronunciations of characters that they have not been taught (Shu Wu Anderson, 2000, p. 61).

Katz and Feldman (1983) conducted a study on the deep English and shallow Serbo-Croatian orthographic systems, the lexical mediation in English word naming, was not found in Serbo-Croatian. Because of the complex orthography of English, the words were coded with their pronunciations as a whole. However, the strong grapheme-phoneme relationship in Serbo-Croatian reduced this lexical involvement, which meant letter to sound correspondence was the actual medium for word naming (p. 164).

Thorstad (1991) revealed that the 'predictable and invariant' orthography of Italian allowed children to employ a systematic phonological strategy, and therefore they learn to pronounce and spell words more accurately. Italian was proved to offer more cues to children and they were mostly successful in the tasks given whereas it took longer for English children to master correct spelling and pronunciation (p. 536).

The current study attempts to analyze the processes that learners go through merely by studying the pronunciation errors that learners from different levels make. There could indeed be obtained more comprehensive results through the use of more advanced techniques that would allow access into learners' brains. Further research with Turkish learners could involve such methods for more advanced outcomes.

2.6. Studies on the pronunciation of diphthongs and triphthongs

Balas (2009) conducted a study on Polish learners' production of English centering diphthongs. They hypothesized that Polish learners of English would have difficulty pronouncing the British English diphthongs /ɪə/, /eə/, and /ʊə/. According to Balas (2009), this would partly be due to the way the tongue moves when producing these diphthongs, which Polish learners do not use to articulate any Polish vowel. It was also hypothesized that having no counterparts of these diphthongs in Polish would cause difficulty for the participants. Finally, Balas added that the centering diphthongs in English are subject to reductions and assimilations, and therefore are hard to distinguish (p. 134). The diphthongs were tested in real words in 61 sentences. The participants were nine male speakers, all aged from 19 to 25. All participants spoke English at an advanced level. The data were processed with Praat.

Balas (2009) found out that Polish learners tend to insert /r/ and /j/ while producing /ɪə/ diphthongs. Similarly, the /eə/ diphthong was realized as an /er/ sequence, and the /r/ did not have the auditory qualities of neither the Polish nor the English /r/. In the pronunciation of the /ʊə/ diphthong, it was found that the most common pattern was again the insertion of /j/ and /r/ consonants as in /ur/, /juar/ (pp. 140-143). However, Balas (2009) added that no definite statement could be made about the acquisition of

these sounds because the realizations of the target sounds were not always significantly different between Polish learners and the native speakers (p. 145).

Markovic and Mlinar (2011) studied Serbian speakers' pronunciation of eight English diphthongs /eɪ/, /aɪ/, /ɔɪ/, /əʊ/, /ɑʊ/, /ɪə/, /ɛə/, and /ʊə/. They hypothesized that the lack of diphthongs in Serbian language would cause difficulties for Serbian speakers of English since these sounds are not part of their vocal space. Praat was used as the primary analysis tool. R was used for statistical computations, and Audacity was the basic sound data manipulation tool. Two softwares, Fonrye and SNTRecorder, were written to build a corpus and for the recording sessions.

The results indicated that the Serbian speakers had the "best" diphthong length for the long /əʊ/, /ɔɪ/, and /aɪ/, and the "worst" for the short /eɪ/, /əʊ/, and /ɑʊ/ when compared to the native speaker. The majority of the diphthongs lasted longer in Serbian speakers' pronunciation. Serbian speakers achieved the best ratio in the short diphthongs /aɪ/, /ɛə/, and /əʊ/. Serbian speakers' pronunciation of all short diphthongs was much longer than the referent speaker; the short diphthongs displayed the greatest differences (pp. 52-57). One explanation to this could be that producing two different vowels one after another in such a short time is not an articulatory feature in Serbian. As far as ratio of the diphthongs within the words is concerned, students' pronunciation of the diphthongs lasted approximately 44.67% of the words' length, 7.44% longer than the native speaker in the study (p. 62). When the formant values were analyzed, it was found out that Serbian speakers pronounced eleven out of sixteen diphthongs with higher magnitude compared to the native speaker. The change in students' vocal apparatus is often different from that of the native speaker. Serbian speakers were also found to have difficulty with the intensity of vowels when

they precede voiced and voiceless consonants. However, the participants were found to be successful in their pitch and accent (p. 108).

Kitagawa (2012) conducted a study on Japanese learners' pronunciation of English diphthongs /eɪ, oɪ, aɪ, əʊ/oʊ, aʊ/. The study measured the duration, trajectory length and spectral rate of change in the diphthongs produced by Japanese learners of English. It was hypothesized by Kitagawa (also see Nakamura, Suzuki, Minematsu, Hirose & Makino, 2010) that the lack of diphthongs in Japanese would lead to pronunciation difficulties for Japanese learners. Kitagawa also added that the diphthongs /eɪ/, /əʊ/, and /oʊ/ would be relatively more difficult since the diphthongal movement within this vowel was not as obvious (p. 99).

The participants of the study were five Japanese learners, five native speakers of American English and five native speakers of British English. The participants were asked to read a passage in which the target diphthongs were tested in real words (p. 99). The recordings were analyzed with Praat.

The results indicated that Japanese learners' pronunciation of the diphthongs /oɪ, aɪ, aʊ/ was not significantly different from that of native speakers for any of the measures. Kitagawa hypothesized that Japanese learners would produce the diphthongs /əʊ/ and /oʊ/ as a monophthong; however, the result was that there was no significant difference between the pronunciations of the learners and the native speakers. Japanese learners' pronunciation of /eɪ/, on the other hand, was the most problematic with the smallest formant movement and therefore fast spectral rate of change.

Tasko and Greilick (2010) conducted a clarity study on the acoustic and articulatory features of diphthong production. The study aimed to evaluate the influence of clear

speech on selected acoustic and orofacial kinematic measures associated with diphthongs production. Clear conversational productions of the words "combine" were collected from forty-nine participants. Listener ratings and acoustic and articulatory kinematic measures of the diphthongs /aɪ/ were included in the analysis.

The results indicated that clarity of speech was associated with an increased duration of the diphthong, larger formant excursions and related tongue and mandible movements, and a minimal change in the formant transition rate. In other words, longer and larger diphthongs production with slower transitions led to clearer speech. Studies with such software as Praat give clearer and more detailed results regarding the articulatory features of oral production. For further research on Turkish learners' pronunciation of diphthongs and triphthongs, Praat could be of great assistance.

2.7. Summary of the chapter

This chapter introduced the English vowel system, diphthongs and triphthongs. Next, Turkish vowel system and a note on the lack of diphthongs and triphthongs in Turkish followed. In the next section, the acquisition of diphthongs and triphthongs was discussed, which was followed by the Interlanguage Hypothesis. Finally, the influence of orthography on L2 phonology acquisition and some experimental studies were shared. In the next chapter, the methodology of the current study is presented.

CHAPTER 3

METHODOLOGY

3.1. Overview of the chapter

This chapter introduces the methodology of the study. First, the research design will be presented, which will be followed by the method of data collection and analysis.

3.2. Research design and methodology

This section describes the design of the study and the methodology of the research in detail.

3.2.1 Research design

The research has both a within-subjects and a between-subjects design. First, it investigates whether there is a significant difference between PIN and ADV level learners regarding their pronunciation of the target sounds. Secondly, it examines whether English orthography plays a role in learners' pronunciation of the target sounds and whether there is a difference between PIN and ADV learners in terms of how they are affected by English orthography. Thirdly, the research examines the

extent to which PIN and ADV learners' are aware of diphthongs and triphthongs in English.

Table 3 shows the procedure which was followed to collect data for the current thesis. The following Table 4 presents the research question in detail, including the subquestions, which is followed by how these research questions were tested (See section 3.2.2).

Table 3 Data collection procedure

1. The stimuli were prepared and a set of PowerPoint slides were designed to present them to the participants (See Appendix C).
2. The experiment was piloted with three learners who did not take part in the main study and this led to updates on the Likert scale described in item 3 below.
3. A three-point Likert scale was prepared with comments from two English native-speaker raters in the pilot study (See Appendix B).
4. Three individual recording sessions were held with each participant.
5. The recordings were assessed by the raters using the Likert scale.
6. Quantitative methods were applied to obtain statistical results.

The research design had two experiment groups from two different proficiency levels. The recordings were administered by the researcher at the recording studio of the Department of Basic English of Middle East Technical University. Participants were aware that their recordings would be listened to by research purposes only and otherwise would be kept confidential. Three recordings were held with every participant, each one week apart. After the assessment process, a quantitative research approach was followed. Table 4 below presents research questions, subquestions, methods, and instruments.

Table 4 Research questions, methods and instruments

Research Question	Method	Instrument
1. Is there a significant difference between the PIN and the ADV learners regarding their pronunciation of diphthongs and triphthongs?	Quantitative	Assessment of the recording sessions by native speaker judges
2. Does orthography play a significant role in learners' performance in producing the target sounds? a) Is there a significant difference between learners' performance in read-aloud and blank-filling tasks? b) Is there a significant difference in students' pronunciation of words with two vowels and words with one vowel? c) Is there a significant difference between students' pronunciation of words with a "w" in read-aloud and blank-filling tasks? d) Is there a significant difference between students' pronunciation of words with a word-final diphthong in read-aloud and blank-filling tasks?	Quantitative	Assessment of the recording sessions by native speaker judges
3. Is there a significant difference between learners' performance in read-aloud and word pronunciation tasks?	Quantitative	Assessment of the recording sessions by native speaker judges

In the current study, we aim to find out whether English orthography has an influence on Turkish learners' pronunciation by comparing their performances in two different settings: a read-aloud test, where participants see the target words; a blank-filling test, where the target words are not visible and are provided by the participants (See Appendix C for the recording slides).

The unique contribution of the current study is that it deals with grapheme-phoneme distinction. We predicted that certain letters and letter positions in a word influence learners' pronunciation of diphthongs and triphthongs. The research design includes these hypotheses as descriptive orthographic categories (See Appendix A for the table of descriptive orthographic categories we used). Below are our predictions and explanations of these categories along with examples of learner errors from the data collected during the present study.

I have repeatedly observed that Turkish learners tend to produce a monophthong in words where the diphthong is word-final. We predicted that word-final positions of a diphthong will influence learners' pronunciation. Therefore, the category of word-final position was created as a criterion with which to test the learners' pronunciation. The following examples are from the current study.

"so" - /so/, /so:/
"go" - /go/, /go:/

We predicted that the use of a single vowel letter to represent a diphthong is problematic for Turkish learners whereas two-vowel letters are less problematic. Therefore, we formed one-vowel and two-vowel letter categories. The former represents the category of words which have one vowel letter that is supposed to be pronounced as a diphthong. See the examples below:

"home" - /hom/, /ho:m/
"open" - /opən/, /o:pən/

The two-vowel letter category consists of words with two vowel letters that comprise a diphthong. This descriptive category is created because we predicted that two orthographically visible vowel letters might be helping learners produce the expected glides more easily than words with one vowel. See the examples below:

“road” - /rod/, /ro:d/
“out” - /oʊt/, /aʊt/

Finally, we predicted that the orthographic presence of the letter “w” has a negative influence on learners’ pronunciation. Therefore, words where the target sound corresponded to a letter combination with a “w” in it are included as a category. Examples from the “w” category can be seen below.

“slower” - /slo:vər/, /sloʊvər/
“now” - /nav/, /na:v/, /naʊv/

All in all, the descriptive categories mentioned above are used to understand the orthographic patterns that might have an influence on Turkish learners’ pronunciation of diphthongs and triphthongs.

3.2.2 Research methodology and instruments

In order to answer the research questions above, recording sessions were conducted in this study. The pronunciations were assessed using a three-point Likert scale by two native speakers of English. Thus, the process revealed numerical results and this

study followed a quantitative method. Overall, the instruments of the current study are:

1. Recordings of learners' pronunciation which includes three tasks:
    a. Read-aloud task (see Appendix D for the full list of the sentences used in the read-aloud task)
    b. Blank-filling task (see Appendix E for the full list of the sentences used in the blank-filling task)
    c. Word pronunciation task See Appendix F for the full list of the sentences used in the word pronunciation task)
2. Assessment of learners' pronunciation via Likert scale.

3.3. Participants and setting

In this section of the study, the participants and the setting used in the research will be provided.

3.3.1 Setting of the study

The study was carried out at the preparatory school of a state university in Ankara. The department serves as the preparatory school of the university and prepares learners for their bachelor studies. At the end of one academic year, students are supposed to sit an English Proficiency Exam, which does not include a speaking section. Moreover, the syllabus of neither PIN nor ADV levels includes any specific emphasis on pronunciation. However, there may be teachers who allocate time to

pronunciation teaching. Therefore, participants were drawn from different classes. The study was conducted during the spring semester of 2014, when the lowest level of proficiency is pre-Intermediate and the highest is advanced.

3.3.2 Participants

The participants are all preparatory school students at the Middle East Technical University in Turkey. At the beginning of the fall semester, students are divided according to their proficiency levels, namely beginner, elementary, intermediate and upper-intermediate. The continuations of these levels in the spring semester are pre-intermediate, intermediate, upper-intermediate and advanced respectively.

The current study was carried out in the spring semester of 2014, and the participants were 10 PIN and 10 ADV level learners. All participants were chosen on the basis of their first semester GPAs (See Appendix G, Question 9 of the Demographic questionnaire). In order to make sure the proficiency level of each group was not too different from each other, the points that all students collected during the fall semester were checked. The maximum GPA to be collected in the fall semester is 45. In the pre-intermediate group, the points every student collected during the first semester were between 25 and 35 (55 to 77%). In the advanced group, because of their proficiency level, this range was generally higher, between 35 and 45 (77 to 100%).

All participants were aged 18-20 and their native language was Turkish. There were 5 males and 5 females in the PIN group, and 4 males and 6 females in the ADV group.

Native speaker judges

Two native speakers of American English, one male and one female, participated in the study as raters. They are both instructor of English at the Department of Basic English who have taught several proficiency levels, and they both lived in several places in the United States. These instructors stated what kind of pronunciations sound "unacceptable", "comprehensible" or "perfect", and therefore their perception of learners' pronunciation errors was taken as a criterion while preparing the Likert scale (See Appendix B for the Likert scale).

3.4. Data collection instruments and the procedure

In this section, the design of the instrument used in the study is explained in more detail. This is followed by the data collection procedure and the scoring of the data.

3.4.1 Selection of target sounds

Based on the researchers' observations, two diphthongs /oʊ/, /aʊ/ and two triphthongs /oʊə/, /aʊə/ were chosen as the target sounds of this study. Both diphthongs are closing diphthongs ending in /ʊ/. The triphthongs used in the study are the extensions (+ ə) of these two diphthongs (Roach, 1991. p.23).

3.4.2 Selection of target words (stimuli)

Participants' pronunciations of the target sounds were tested in real words. As proven by Carroll, J. B. and White, M. N. (1973), frequency is important in recognition of words. Therefore, the diphthong words chosen as stimuli for this study were checked in British National Corpus (BNC) website (http://www.natcorp.ox.ac.uk/). They were all within the frequency range of 16000-24000; thus we safely assumed that the participants would be familiar with the stimuli words and that lack of familiarity would not interfere with the process. One exception was the word "soul" (with frequency 2914), but it was still used as a stimulus since it BNC lists it as the most frequent word with the letter combination "ou" referring to the diphthong /oʊ/. In addition, it was assured that all the words used in the study were among the department's vocabulary journal for the learners at the time of the research.

Triphthongs are not encountered as often as diphthongs in English. Therefore, BNC frequencies of the triphthong words "towel, slower, lower, and power" are respectively 822, 942, 12263, and 31608.

All words were selected according to the position of the target sound letter(s) in the word, which were expected to be of assistance in determining the effects of orthographic patterns on pronunciation. To reiterate, these were:

1) words where the target sound corresponded to a letter combination with a "w" in it
2) words where the target sound occurred word-finally,
3) words where the target sound corresponded to one vowel letter,
4) words where the target sound corresponded to two vowel letters.

Since there were no words found in some of the positions above, the number of words in each position is different. In particular, the diphthong /oʊ/ was used in all four positions and it was possible to test it in all the categories, whereas the diphthong /aʊ/ had to be tested in two positions and each triphthong had to be tested in one position (See Table 5 below for a full list of the sounds, with respect to the descriptive categories formed).

Table 5 Target sounds and their position in the word

	/oʊ/	**/aʊ/**	**/oʊə/**	**/aʊə/**
"w"	low, own	how, now	lower, slower	towel, power
word-final	so, go	-	-	-
one-vowel letter	open, home	house, out	-	-
two-vowel letters	soul, road	-	-	-

3.4.3 Presentation of the stimuli

Once the target words were selected, sentences consisting of 4 or 5 words were prepared. Each target word was embedded sentence-medially. The sentences were not drawn from any source.

3.4.4 Recording sessions

The data for the study were collected via individual recording sessions in three different settings. The three recordings were one week apart from each other.

For all recordings, Shure C-606 microphone connected to a Behringer Eurorack UB1202 was used. The software used for the recordings was Sony Sound forge Pro 10.0. The stimuli were presented in written form through a 17-inch-monitor Apple MacBook Pro. The participants were required to read the stimuli clearly and naturally, and they were allowed to set the pace on the PowerPoint presentation by passing on to the next slide when they wished to do so.

In each of the first two recordings, the four sounds were tested in 32 words in 32 sentences (16 target words, 16 distractors). At the beginning of each session, the participant was presented with a sample item on a PowerPoint presentation. For every sentence with the target word, there was a distractor sentence. These sentences were placed randomly. Moreover, to enhance the reliability of the experiment, the sentences (both target and distractor items) were shuffled randomly once again since each participant was asked to do three readings, namely, as the 'warm-up' the target reading and the 'fatigue' reading. The second reading was the data to be used in the analysis. The students were not told that only the second recording was going to be evaluated. All in all, each participant read a total of 96 sentences (48 target, 48 distractor) in three recordings. Table 6 below summarizes the procedure followed during each recording.

Table 6 Recording procedure

Step 1	The recording environment is introduced to the participant.
Step 2	The sample item is presented to the participant.
Step 3	Reading 1: Warm-up reading.
Step 4	30 second break.
Step 5	Reading 2: Target (data) reading.
Step 6	30 second break.
Step 7	Reading 3: Fatigue reading

3.4.4.1 Recording 1: read-aloud

In this task, each participant was asked to read aloud the sentences that appear on PowerPoint on a computer screen (See Appendix C for the read-aloud slides). Each sentence was set to appear in isolation in order to make sure that participants would not be influenced by the previous sentence but would focus on the one that appears on the screen.

3.4.4.2 Recording 2: blank filling

In this task, participants were asked to study each sentence and fill in the blank using the cue, before they read them aloud (See Appendix C for the blank-filling slides). The cue was the always the first letter of the word. Participants were not allowed to write down the answers. They did not see the written forms of the target words in their entirety. They only saw the initial letters of the words and studied the sentences visually only. They were allowed to take as much time as they needed.

3.4.4.3 Recording 3: word pronunciation

In this task, subjects were informed that this was a pronunciation test. They were asked to pronounce the words in the way that they believe to be correct. They saw the words in isolation in their written form (See Appendix C for the word pronunciation slides).

3.4.5 Data scoring

Two native speakers listened to the recordings independently to assess participants' pronunciation of the target sounds using the 3-point Likert scale. The points were "unacceptable" (0), "comprehensible" (1), and "perfect" (2) (See Appendix B for the assessment scale).

3.4.5.1 Preparation of the Likert scale

The scale was shaped based on two native speakers' perspective of students' production on the pilot study with three learners who did not take part in the main study. It included several expected unacceptable, comprehensible and perfect pronunciations that were indicated by both NSs upon listening to the data from the pilot study. For example, for the word "now", NSs agreed that /nov/ and /nav/ were unacceptable pronunciations, while /nauv/ was comprehensible.

When the raters heard errors that interfered with comprehensibility, they would choose "unacceptable pronunciation". Intelligible pronunciations with errors were

considered “comprehensible pronunciation”. When the pronunciation of a participant sounded correct with no errors at all, they would choose “perfect pronunciation”. The same NSs who expressed their opinion of student pronunciations in the pilot study assessed the target learners’ performance in the main study.

3.4.5.2 Inter-rater reliability

In order to ensure that the assessment of participants’ performances was reliable, Gwet’s (2001) AC1-Agreement Coefficient First-Order inter-rater reliability test was applied. Gwet’s (2008) AC1 is a special type of Cohen-Kappa. In this study, Altman’s (1991) assessment measurement table, as seen in Table 7, was used as reference.

Table 7 Altman’s agreement strength measurement (Altman, 1991)

0.81 – 1.00 very good
0.61 – 0.80 good
0.41 – 0.60 moderate
0.21 – 0.40 fair
< 0.20 poor

Table 8 presents the level of agreement between the raters in the present study based on Altman’s scale of strength of agreement.

Table 8 Inter-rater reliability test results

READ-ALOUD		
	STRENGTH VALUES	
	ADVANCE	PIN
W		
oʊ - low	0,13	0,85
oʊ - own	0,65	0,88
aʊ - how	0,87	0,78
aʊ - now	0,35	0,88
oʊə - lower	0,62	0,86
oʊə - slower	0,76	1
aʊə - power	0,29	0,30
aʊə - towel	0,40	0,88
TWO-VOWEL		
oʊ - soul	1	0,75
oʊ - road	0,88	1
aʊ - house	0,89	0,88
aʊ - out	0,76	0,60
ONE-VOWEL		
oʊ - open	0,33	1
oʊ - home	0,63	1
WORD-FINAL		
oʊ - so	0,32	1
oʊ - go	0,60	1

BLANK-FILLING		
	STRENGTH VALUES	
	ADVANCE	PIN
W		
oʊ - low	0,30	0,85
oʊ - own	0,89	0,62
aʊ - how	0,63	0,87
aʊ - now	0,49	0,72
oʊə - lower	0,24	1
oʊə - slower	0,33	0,61
aʊə - power	0,27	0,87
aʊə - towel	0,72	0,86

Table 8 (cont'd)

TWO-VOWEL		
oʊ - soul	1	0,60
oʊ - road	0,47	1
aʊ - house	0,89	0,88
aʊ - out	1	0,88
ONE-VOWEL		
oʊ - open	0,46	0,88
oʊ - home	0,76	1
WORD-FINAL		
oʊ - so	1	1
oʊ - go	0,73	0,89

	WORD PRONUNCIATION	
	STRENGTH VALUES	
	ADVANCE	PIN
W		
oʊ - low	0,85	1
oʊ - own	0,87	1
aʊ - how	0,73	0,60
aʊ - now	0,73	0,86
oʊə - lower	0,87	1
oʊə - slower	0,73	0,65
aʊə - power	0,70	0,88
aʊə - towel	1	1
TWO-VOWEL		
oʊ - soul	0,73	0,9
oʊ - road	0,86	1
aʊ - house	1	1
aʊ - out	1	1
ONE-VOWEL		
oʊ - open	1	0,87
oʊ - home	1	0,87
WORD-FINAL		
oʊ - so	0,85	1
oʊ - go	1	1

The pronunciations where the raters did not agree were not included in the statistics of this study. In other words, only those productions where both native speakers' gave a common grade were taken into account.

3.5. Data Analysis Methods

The present study implemented a three-point Likert scale with categories coded as 0 (unacceptable), 1 (comprehensible), and 2 (perfect). When there are more than two variables as such, non-parametric tests are used. For the current study, the Pearson Chi-Square Independent Test is used to find out whether there is a relation between two or more variables. If there is a significant relationship, *Cramer's V* is applied to understand the strength of this relation (Özbay, 2009). The interpretations of Cramer's V values were based on the following cross-tabulation table (See Table 9 below).

Table 9 Cramer's V interpretation table

LEVEL OF ASSOCIATION	**Verbal Description**	**COMMENTS**
0.00	No Relationship	Knowing the independent variable does not help in predicting the dependent variable.
.00 to .15	Very Weak	Not generally acceptable
.15 to .20	Weak	Minimally acceptable
.20 to .25	Moderate	Acceptable
.25 to .30	Moderately Strong	Desirable
.30 to .35	Strong	Very Desirable
.35 to .40	Very Strong	Extremely Desirable

Table 9 (cont'd)

.40 to .50	Worrisomely Strong	Either an extremely good relationship or the two variables are measuring the same concept
.50 to .99	Redundant	The two variables are probably measuring the same concept.
1.00	Perfect Relationship	If we know the independent variable, we can perfectly predict the dependent variable.

Retrieved from: http://groups.chass.utoronto.ca/pol242/Labs/LM-3A/LM-3A_content.htm

3.6. Summary of the chapter

This chapter presented the methodology of the study. The participants, data collection tools, the method and the procedure were shared, along with the inter-rater reliability analysis results. The next chapter presents the results of the study.

CHAPTER 4

RESULTS

4.1. Overview of the chapter

This chapter presents the statistical results of the collected data. The chapter is divided into three sections which provide the analyses of three research questions.

4.2. Comparison of the PIN and ADV groups

This section presents the results for PIN and ADV groups' comparison in terms of all recordings.

Research Question 1: Is there a significant difference between the PIN and the ADV learners regarding their pronunciation of diphthongs and triphthongs?

Null hypothesis: *There is no significant difference between the PIN and the ADV learners regarding their pronunciation of diphthongs and triphthongs.*

Calculated Chi-Square value (87,818) was higher than the table value (5,991), and therefore the null hypothesis was rejected. There was a significant relation between learners' language proficiency level and their production of sounds in all three recordings.

Calculated Cramer V value of this relation was 0,331. The exact probability level (p value) was calculated 0,0001 (0,0001<0,05). Therefore, there is a strong relation between learners' proficiency level and their production of sounds in all three recordings. Figure 4 below shows the common assessment counts of PIN and ADV learners in all three recordings.

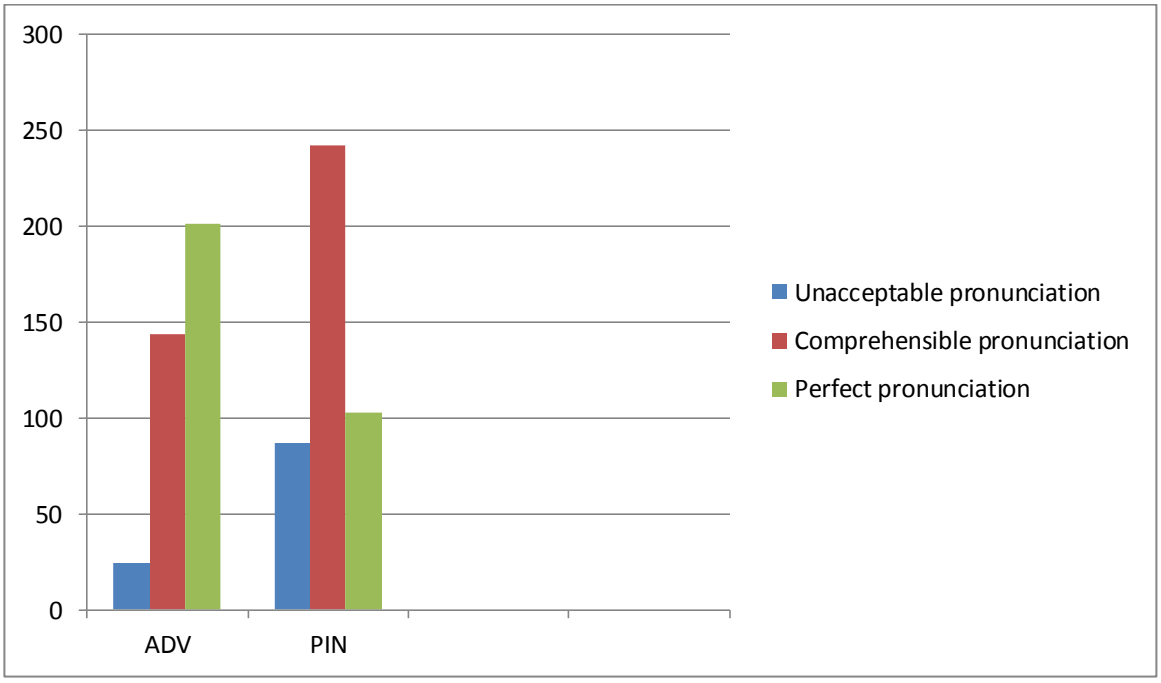

Figure 4 PIN and ADV groups' common pronunciation counts in all recordings

4.3. Orthographic Influence (read-aloud vs. blank-filling)

This section firstly provides the results obtained from the comparison of the read-aloud and the blank-filling tasks. Then, the results obtained from the orthographic categories will be presented.

4.3.1 Comparison of the read-aloud and the blank-filling tasks

In order to find out whether orthography had a significant influence on participants' pronunciation, read-aloud and blank-filling tasks were compared in PIN and ADV groups.

Research Question 2: Does orthography play a significant role in learners' performance in producing the target sounds?

2-a: Is there a significant difference between learners' performance in read-aloud and blank-filling tasks?

Null hypothesis: *There is no significant difference between ADV learners' performance in read-aloud and blank-filling tasks.*

For the ADV group, calculated Chi-Square value (5,977) was lower than the table value (5,991). Therefore, the null hypothesis could not be rejected. There is no significant relation between ADV group's performances in these two tasks (See Figure 5 for the common assessment counts of the ADV group).

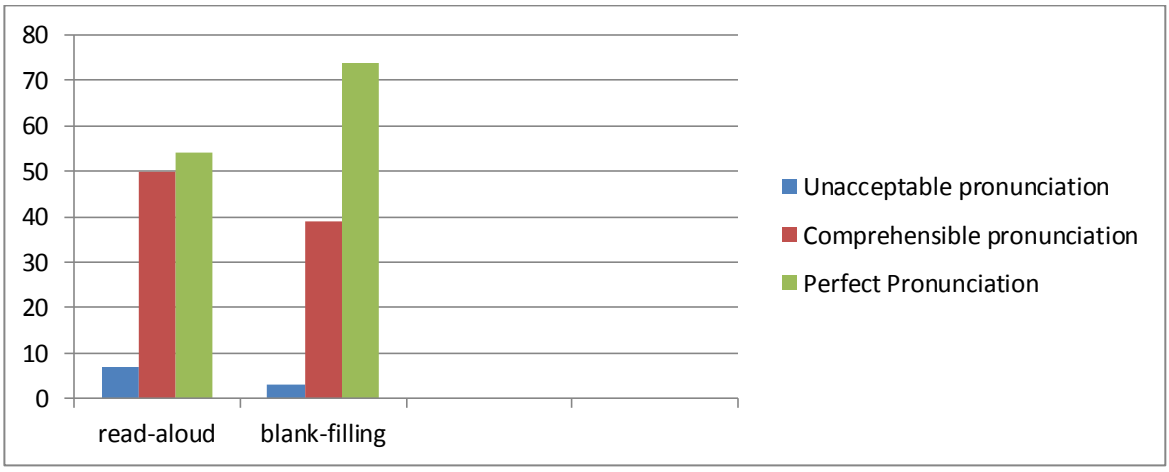

Figure 5 ADV group's common pronunciation counts in read-aloud and blank-filling tasks

Null hypothesis: *There is no significant difference between PIN learners' performance in read-aloud and blank-filling tasks.*

As for the PIN group, calculated Chi-Square value (5,754) was lower than the table value (5,991). Therefore, the null hypothesis could not be rejected. There is no significant relation between PIN group's performances in these two tasks (See Figure 6 for the common assessment counts of the PIN group).

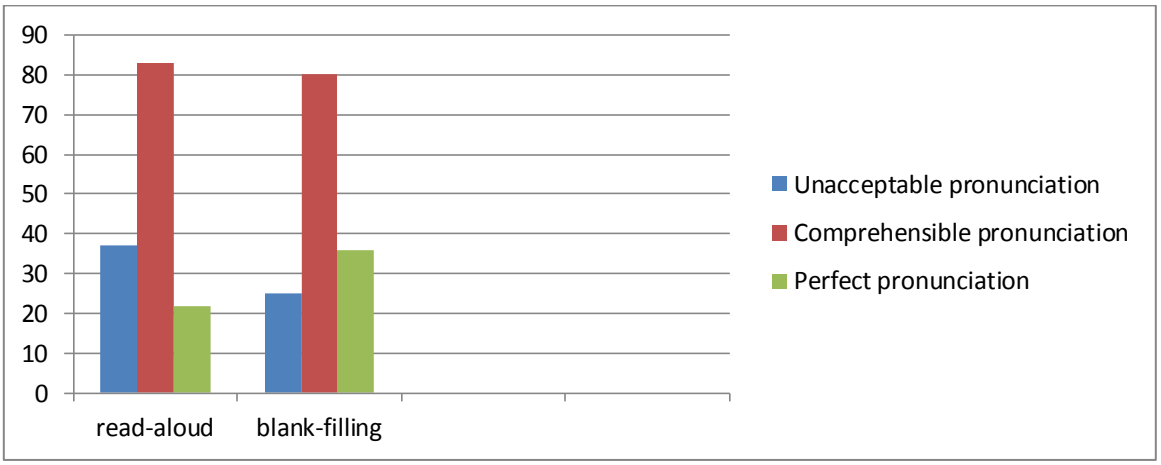

Figure 6 PIN group's common pronunciation counts in read-aloud and blank-filling tasks

4.3.2 Orthographic Categories

The results of the four orthographic categories will be presented in this section. First, the comparison of the "one-vowel" and "two-vowel" categories will be provided. Next, the results from the "w" category will be presented. Finally, the results that the "word final" category yielded will be provided.

4.3.2.1 "one-vowel" vs. "two-vowel" categories

In this section, the results of PIN and ADV groups' performances in "one-vowel" and "two-vowel" categories will be presented.

Research Question 2-b: Is there a significant difference between learners' pronunciation of words with two vowels and words with one vowel?

Null hypothesis: *There is no significant difference between ADV learners' pronunciation of words with two vowels and words with one vowel.*

Regarding the ADV group, Calculated Chi-Square value (43,496) was higher than the table value (5,991), and therefore the null hypothesis was rejected. There was a significant relation between ADV learners' pronunciation of words in one-vowel and two-vowel categories.

Calculated Cramer V value of this relation was 0,553. The exact probability level (p value) was calculated 0,000 (0,000<0,05). Therefore, there is a redundant relation between ADV learners' performance in one-vowel and two-vowel categories. Figure 7 below shows the common assessment counts of the ADV group in one-vowel and two-vowel categories.

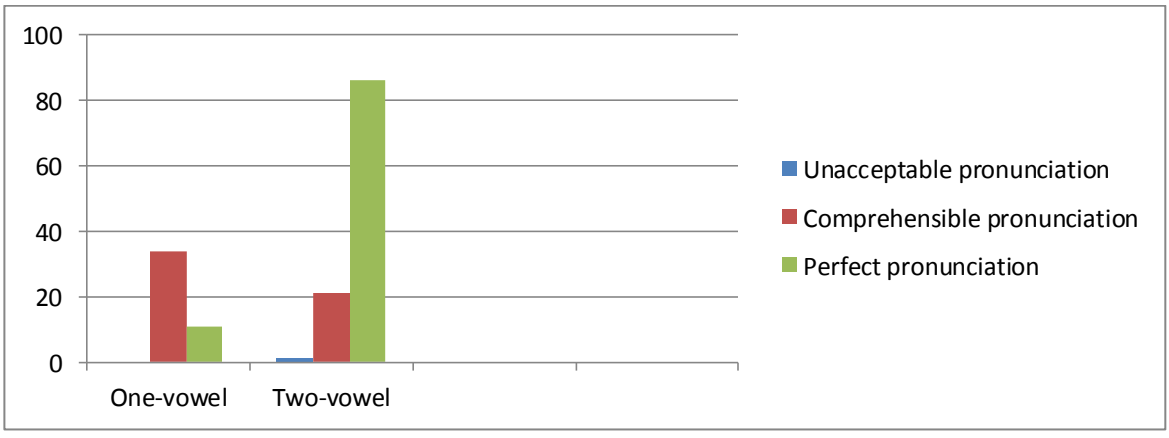

Figure 7 ADV group's common pronunciation counts in "one-vowel" and "two-vowel" categories

Null hypothesis: *There is no significant difference between PIN learners' pronunciation of words with two vowels and words with one vowel.*

For the PIN group, Calculated Chi-Square value (33,846) was higher than the table value (5,991), and therefore the null hypothesis was rejected. There was a significant relation between PIN learners' pronunciation of words in one-vowel and two-vowel categories.

Calculated Cramer V value of this relation was 0,453. The exact probability level (p value) was calculated 0,000 (0,000<0,05). Therefore, there is a worrisomely strong relation between PIN learners' performance in one-vowel and two-vowel categories. Figure 8 shows the common assessment counts of the PIN group in one-vowel and two-vowel categories.

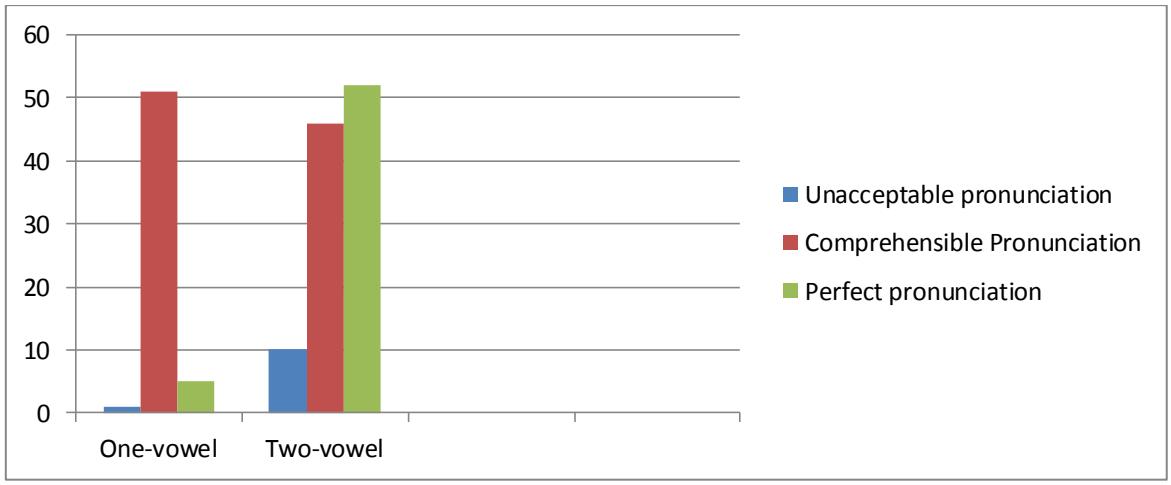

Figure 8 PIN group's common pronunciation counts in "one-vowel" and "two-vowel" categories

4.3.2.2 “w” category (read-aloud vs. blank-filling)

In this section, the results of PIN and ADV groups’ “w” category performances compared in read-aloud and blank-filling tasks.

Research Question 2-c: Is there a significant difference between learners’ pronunciation of words with a “w” in read-aloud and blank-filling tasks?

Null hypothesis: *There is no significant difference between ADV learners’ pronunciation of words with a “w” in read-aloud and blank-filling tasks.*

The ADV group’s calculated Chi-Square value (2,549) was lower than the table value (5,991). Therefore, the null hypothesis could not be rejected. There was no significant relation between ADV group’s pronunciation of “w” words in read-aloud and blank-filling tasks. Figure 9 presents the common assessment counts for the ADV group’s “w” category in read-aloud and blank-filling tasks.

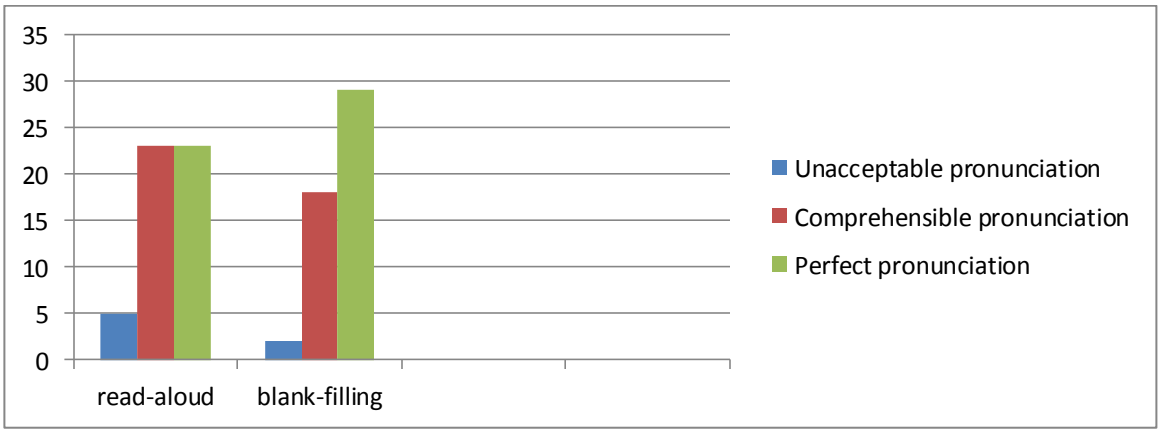

Figure 9 ADV group’s common pronunciation counts of “w” category in read-aloud and blank-filling tasks

Null hypothesis: *There is no significant difference between PIN learners' pronunciation of words with a "w" in read-aloud and blank-filling tasks.*

As regards the PIN group, calculated Chi-Square value (3,904) was lower than the table value (5,991). Therefore, the null hypothesis could not be rejected. There was no significant relation between PIN group's pronunciation of words with a word-final diphthong in read-aloud and blank-filling tasks. Figure 10 presents the common assessment counts for the PIN group's "w" category in read-aloud and blank-filling tasks.

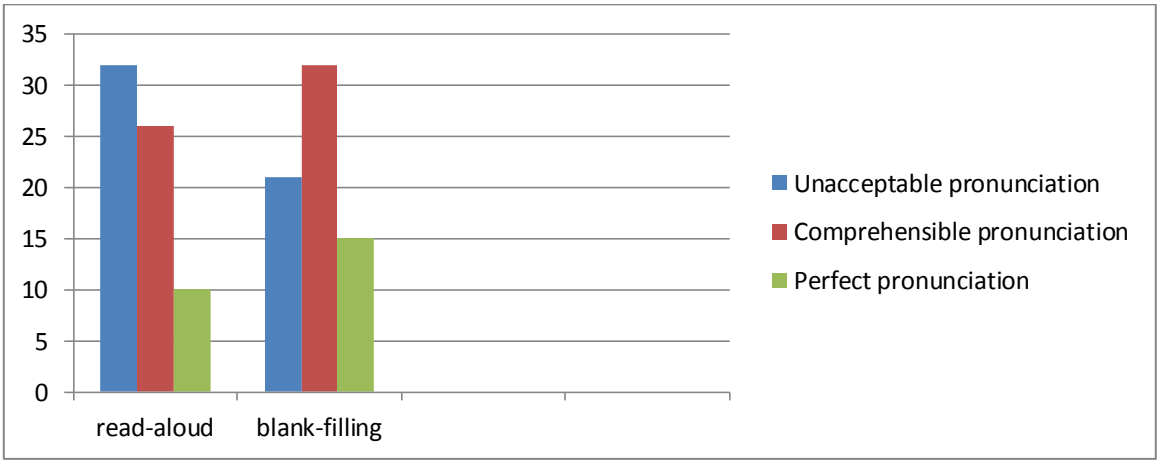

Figure 10 PIN group's common pronunciation counts of "w" category in read-aloud and blank-filling tasks

4.3.2.3 "word-final" category (read-aloud vs blank-filling)

In this section, the results of PIN and ADV groups' "word-final" category performances compared in read-aloud and blank-filling tasks.

Research Question 2-d: Is there a significant difference between learners' pronunciation of words with a word-final diphthong in read-aloud and blank-filling tasks?

Null hypothesis: *There is no significant difference between ADV learners' pronunciation of words with a word-final diphthong in read-aloud and blank-filling tasks.*

ADV group's calculated Chi-Square value (0,399) was lower than the table value (5,991). Therefore, the null hypothesis could not be rejected. There was no significant relation between ADV group's pronunciation of words with a word-final diphthong in read-aloud and blank-filling tasks (See Figure 11 for the pronunciation counts of the ADV group).

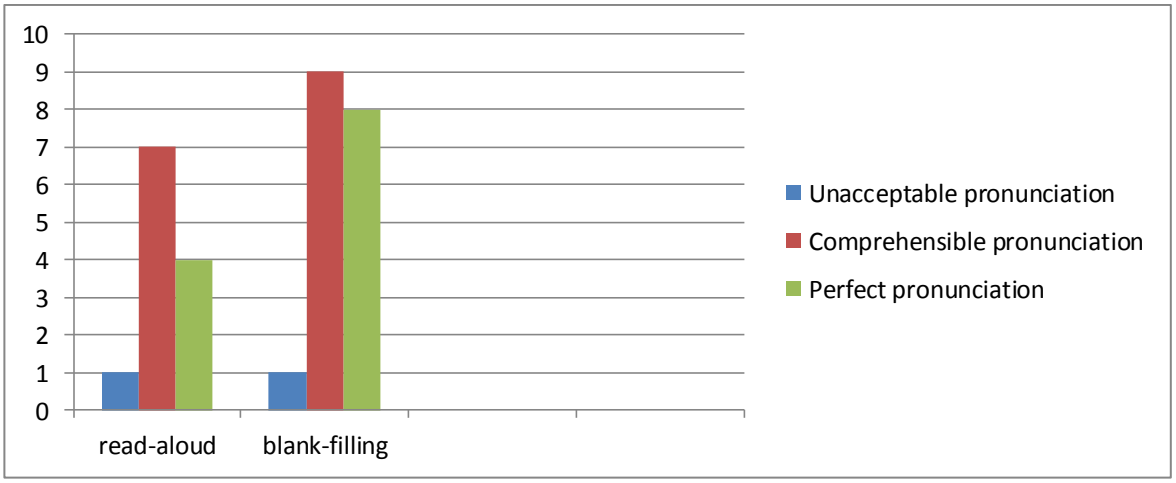

Figure 11 ADV group's common pronunciation counts of the "word-final" category in read-aloud and blank-filling tasks

As regards the PIN group, NSs had consensus on one category only: comprehensible pronunciation (See Figure 12 below). That is why a Chi-square table could not be

created and statistical calculations were not allowed. Still, a further discussion will be made on PIN learners' performance in the Discussion section.

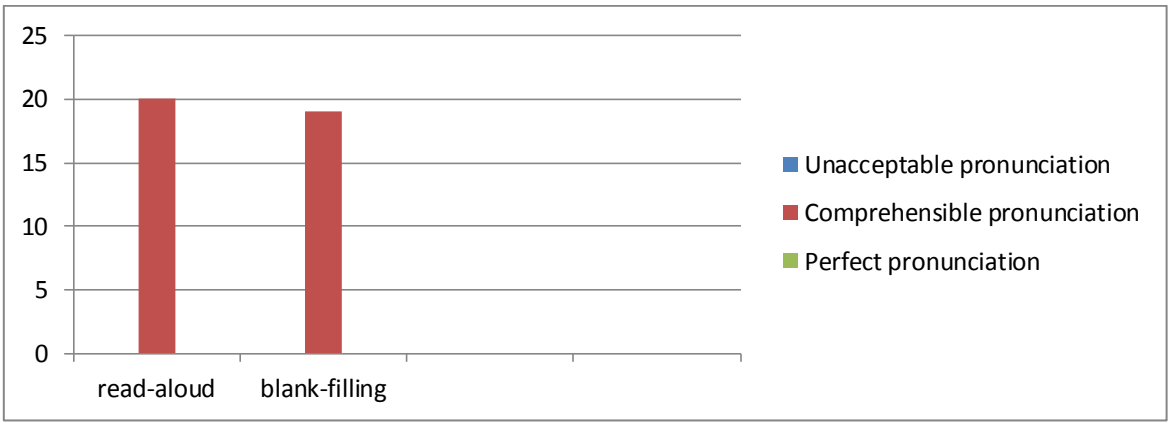

Figure 12 PIN group's common pronunciation counts of the "word-final" category in read-aloud and blank-filling tasks

4.4. Awareness of diphthongs and triphthongs (read-aloud vs. word pronunciation)

This section presents the results of PIN and ADV learners' performances in read-aloud and word pronunciation tasks.

Research Question 3: Is there a significant difference in learners' performance between read-aloud and word pronunciation tasks?

Null hypothesis: *There is no significant difference between ADV learners' performance in read-aloud and word pronunciation tasks.*

For the ADV group, calculated Chi-Square value (1,640) was lower than the table value (5,991). Therefore, the null hypothesis could not be rejected. There was no significant relation between ADV group's pronunciation of words in read-aloud and word pronunciation tasks. Figure 13 presents the pronunciation counts for the ADV group.

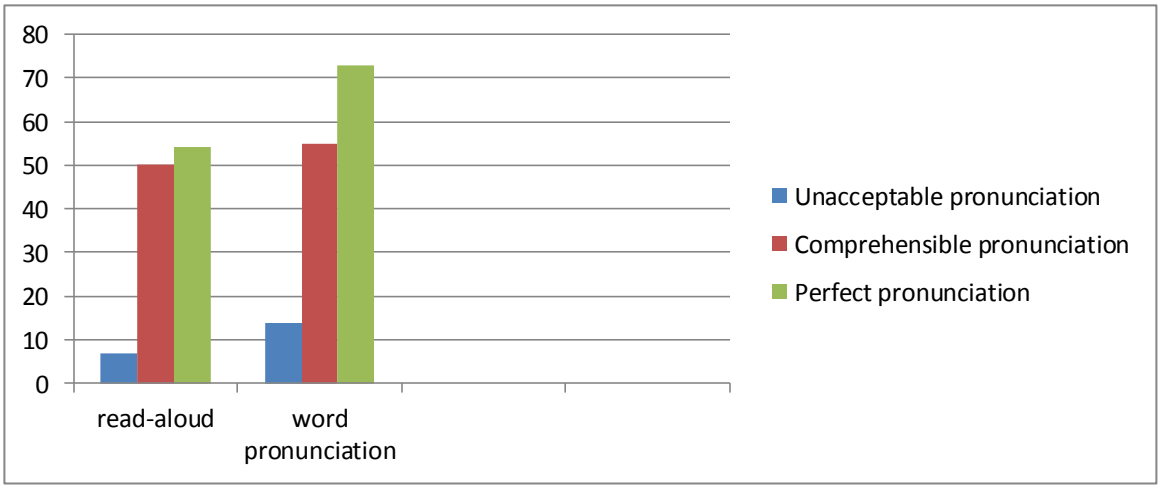

Figure 13 ADV group's common pronunciation counts in read-aloud and word pronunciation tasks

Null hypothesis: *There is no significant difference between PIN learners' performance in read-aloud and word pronunciation tasks*.

Regarding the PIN group, calculated Chi-Square value (10,154) was higher than the table value (5,991), and therefore the null hypothesis was rejected. There was a significant relation between PIN group's pronunciation of words in read-aloud and word pronunciation tasks.

Calculated Cramer V value of this relation was 0,187. The exact probability level (p value) was calculated 0,006 (0,006<0,05). Therefore, there is a weak relation between

PIN learners' performance in read-aloud and word pronunciation tasks. Figure 14 shows the common pronunciation counts for the PIN group.

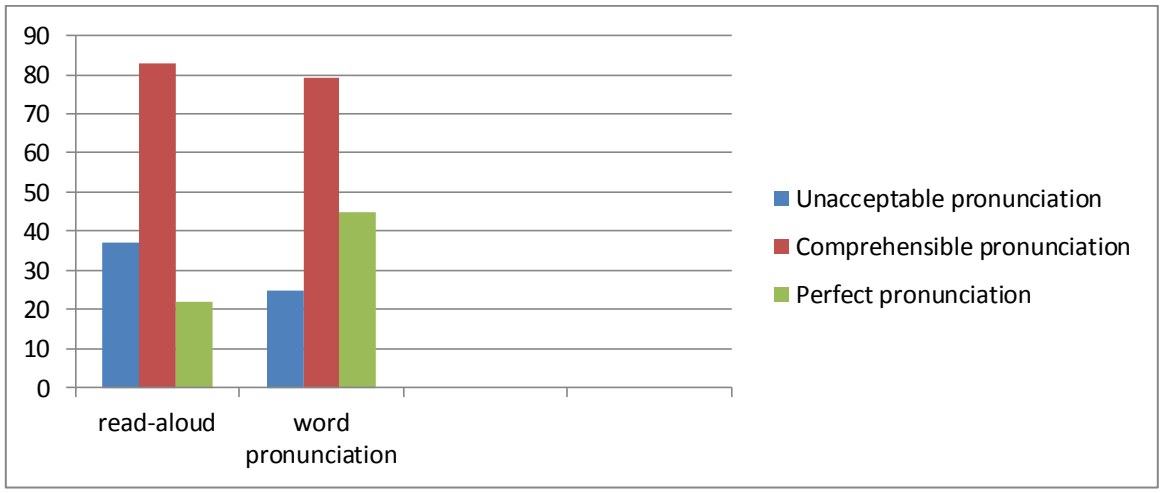

Figure 14 PIN group's common pronunciation counts in read-aloud and word pronunciation tasks

4.5. Summary of the chapter

This section presents a summary of the results based on the research questions. Table 10 below provides the research questions along with the subquestions. Along with each research question, the instruments are provided. Lastly, the table provides the results regarding each research question (See Table 10).

Table 10 Summary of the results

Research Questions	**Instruments**	**Results**
1. Is there a significant difference between the PIN and the ADV learners regarding their pronunciation of diphthongs and triphthongs?	a) Three recording sessions: - read-aloud task - blank-filling task - word pronunciation task b) Likert scale based assessment by NSs	*PIN vs ADV group:* significant difference
2. Does orthography play a significant role in learners' performance in producing the target sounds? a) Is there a significant difference between learners' performance in read-aloud and blank-filling tasks? b) Is there a significant difference in students' pronunciation of words with two vowels and words with one vowel? c) Is there a significant difference between students' pronunciation of words with a "w" in read-aloud and blank-filling tasks? d) Is there a significant difference between students' pronunciation of words with a word-final diphthong in read-aloud and blank-filling tasks?	a) Two recording sessions - read-aloud task - blank-filling task b) Likert scale based assessment by NSs	a) *ADV group:* no significant difference *PIN group:* no significant difference b) *ADV group:* significant difference *PIN group:* significant difference c) *ADV group:* no significant difference *PIN group:* no significant difference d) *ADV group*: no significant difference *PIN group:* N/A

Table 10 (cont'd)

3. Is there a significant difference between learners' performance in read-aloud and word pronunciation tasks?	a) Two recording sessions - read-aloud task - word pronunciation task b) Likert scale based assessment by NSs	*ADV group:* no significant difference *PIN group:* significant difference

This chapter presented the statistical results of the current study. The next chapter is the discussion of these results as well as a conclusion.

CHAPTER 5

DISCUSSION

5.1. Overview of the chapter

This chapter presents discussion of the statistical results of the study. The chapter is divided into three main sections since there are three research questions. First, pre-intermediate and advanced level learners' development of diphthongs and triphthongs will be discussed. This will be followed by the influence of orthography as an extra-linguistic factor through the analysis of the results drawn from the orthographic categories and the comparison of the read-aloud and blank-filling task results. Last, learners' awareness of diphthongs and triphthongs will be provided and discussed.

5.2. Comparison of PIN and ADV groups

Research question 1: Is there a significant difference between the PIN and the ADV learners regarding their pronunciation of diphthongs and triphthongs?

When all three recordings were evaluated together, it was seen that there was a significant difference between the PIN and ADV level learners' performances with a bias for the ADV learners. It can be concluded that proficiency level influences learners' performances in producing diphthongs and triphthongs. PIN and ADV groups have different counts in each assessment category, which may point to the

development of an interlanguage that is changing over time in the course of L2 phonology acquisition (Selinker, 1972).

As far as the agreement between the raters is concerned, they seemed to have agreed on PIN level learners' pronunciations more easily than they did on ADV learners'. For the PIN group, raters agreed on 432 out of 480 (90%) pronunciations, whereas they agreed on 369 out of 480 (76.8%) for the ADV group. Raters mostly seem to have disagreed between "comprehensible" and "perfect pronunciations" for the ADV learners.

Regarding the inter-rater agreement, it is worth mentioning that one of the most frequently observed pronunciation patterns was observed in the "w" category. "w" category words such as "lower, slower, how, now, own, low" were mostly evaluated in the "comprehensible" or "perfect" pronunciation category. Considering the instances where the raters disagreed on whether a given pronunciation is "comprehensible" or "perfect", it could be assumed that the Turkish voiced bilabial fricative /β/ helps learners get away with certain errors. However, we also see that the number of disagreements was higher for the ADV group. This might indicate that the patterns ADV learners display in their pronunciation are more complex and rather transitional in terms of L2 phonology proficiency. PIN learners, on the other hand, seem to give a relatively clearer picture as to how they produce these sounds, whether these productions are errors or not. In other words, advanced learners exhibit more variability in terms of NS judgments whereas PIN group receives more clear-cut ones. For the "w" category, for instance, PIN group mostly had comprehensible pronunciations and the agreement between the raters was relatively stronger when compared to the ADV group's developing patterns towards a more native-like

phonology that led to disagreements between "comprehensible" and "perfect" pronunciations.

5.3. Orthographic influence (read-aloud vs. blank-filling)

In this section, the results obtained from the general comparison of the learners' performance in the read-aloud and the blank-filling tasks will be discussed. This will be followed by the discussion of the results obtained from the orthographic categories.

5.3.1 Comparison of the read-aloud and the blank-filling tasks

Research Question 2: Does orthography play a significant role in learners' performance in producing the target sounds?

2-a: Is there a significant difference between learners' performance in the read-aloud and blank-filling tests?

A comparison of the read-aloud and blank-filling tests revealed no significant difference for the PIN group. The results were similar for the ADV group. There seemed to be no statistically significant relation between the two tests. It can be concluded that certain pronunciation patterns do not change significantly based on exposure to orthographic input. Learners display similar phonological patterns regardless of the setting.

The fact that there was no significant relation between the two recordings can be interpreted as evidence that orthography plays no role in learners' pronunciation of target sounds. However, it can still be seen that both groups had fewer unacceptable pronunciations and more perfect pronunciations in the blank-filling test, where they were not presented with the written forms of the words. Still, learners may be using mental orthographic representations of words as cues when they are trying to remember and pronounce the words in their inventory. Therefore, it might be too optimistic to argue that when learners do not see the written forms of words, they are completely free of orthographic influence. In fact, seeing the first letter as a clue might have triggered a more vivid orthographic representation. Another issue that must not be ignored is the possibility that the blank-filling experiment might make the target words more salient, which in turn might be making participants more conscious and careful about the pronunciation of those words. Such external factors might play a role in the process they must be teased apart. Yet, there are still differences in the number of unacceptable and perfect pronunciations of learners towards an orthographic influence on phonology.

Regarding the number of pronunciations that the native speakers agreed on, it is seen that PIN group gave a clearer picture to the raters. For the PIN group's read-aloud task, 142 out of 160 (88.7%) productions were agreed on while they had consensus on only 111 pronunciations (69.3%) of the ADV group. Similarly, for the blank-filling task, out of 160 pronunciations for each group, PIN group's common pronunciation count was 141 (88.1%) and ADV group's was 116 (72.5%). As mentioned earlier, ADV group displays a more complex pattern of interlanguage in terms of phonology. Native speaker judges seem to have conflicted while deciding whether a pronunciation is "comprehensible" or "perfect" for both groups. As mentioned earlier, deciding between "comprehensible" and "perfect" pronunciations

for the "w" category words was challenging for the judges. However, the difficulty was more obvious while rating the ADV group. For the word-final category, for instance, the words "go" and "so" were clearly pronounced with a monophthong by PIN level learners; however, ADV level learners caused difficulty by producing patterns that were almost native-like realizations of the target sounds. Yet, not all of these productions were evaluated as perfect pronunciations by the raters.

5.3.2 Orthographic Categories

In this section, the results from learners' pronunciation of the words in the orthographic categories will be discussed in detail.

5.3.2.1 The "one-vowel" vs. "two-vowel" categories

Research question 2-b: Is there a significant difference in students' pronunciation of words with two vowels and words with one vowel?

In both ADV and PIN groups, a significant relation was found between the pronunciations of one-vowel and two-vowel words.

The fact that NSs agreed on a count of 86 perfect pronunciations alone for two-vowel words is an indicator of the clarity in pronunciation by ADV group. The same group produced only 11 perfect utterances of one-vowel words. The results were similar for the PIN group. They recorded 5 perfect pronunciations of one-vowel words whereas their perfect pronunciation count of two-vowel words was 52. It can be concluded

that one-vowel diphthongs hinder perfect pronunciation because of orthography-phonology conflict. Two-vowel diphthongs, on the other hand, seem to assist Turkish learners who are accustomed to a transparent orthography.

The most common pronunciation pattern for the words "home" and "open" were respectively /hom/ and /opən/. In other words, learners usually seemed to omit the second part of the diphthong. However, the number of errors decreased as the number of vowels corresponding to a diphthong increased. For example, for the words "soul" and "road", the number of perfect pronunciations increased whereas unacceptable pronunciation count diminished. Especially the word "soul" was pronounced "perfectly" by most students despite the word being rather infrequent. This can be linked to the fact that the orthographic pattern in the word "soul" might be facilitating native-like pronunciation. Turkish learners are familiar to pronouncing all letters in most words. That is why they might be finding it easier to pronounce such words with a strong grapheme-phoneme relationship. The word "road" still yielded more comprehensible and perfect pronunciations than one-vowel words, but it did not seem to help pronunciation as much as "soul" did, probably because it does not possess as strong a grapheme-phoneme correspondence.

The results for "house" and "out" revealed that learners did not have much difficulty in producing the diphthong /aʊ/. They did well on both recordings, which could be attributed to the diphthong itself. /aʊ/ is a more audible diphthong in that the two parts of the phoneme are further apart from each other compared to those in /oʊ/. This can be an explanation to the fact that as long as there is no "w" in a word with /aʊ/, learners seem to have no or little difficulty producing the diphthong. As stated by Edwards and Zampini (2008), dissimilar sounds tend to be less challenging than

similar sounds since the larger the differences are, the more easily they tend to be noticed; therefore, learning is more likely to take place (p. 72).

One-vowel and two-vowel categories did not seem to create any major difficulties for the native speakers while grading learners' pronunciations. Out of the 60 one-vowel pronunciations of the PIN group, 57 (95%) of them were agreed on by the raters. For the ADV group, they agreed on 45 pronunciations out of 60 (75%). As regards the two-vowel category, there were 108 common pronunciations out of 120 (90%) –for both ADV and PIN groups. Conflicts between "comprehensible" and "perfect" pronunciation assessment, although to a smaller extent, continued here.

To sum up, looking at the results of the one-vowel and two-vowel categories, it could be concluded that learner errors are two-sided. First, there is the phonology issue. Some sounds might be easier to recognize and therefore produce for learners regardless of other extra-linguistic factors. Second, there is the orthography issue. Some letters and letter combinations seem to facilitate pronunciation since they provide more cues to Turkish learners as orthographic patterns whereas other patterns seem to hinder pronunciation because of their irregularity when compared to Turkish.

5.3.2.2 The "w" category

Research question 2-c: Is there a significant difference between students' pronunciation of words with a "w" in read-aloud and blank-filling tasks?

The pronunciation of "w" words revealed no significant results in either ADV or PIN group.

Although the count of unacceptable pronunciations decreased and perfect pronunciations increased in the blank-filling tests of both groups, there was no statistically significant relation between the two recordings. This means that the letter "w" does not have an effect on learners' pronunciation of the target diphthongs and triphthongs. However, it can also be claimed that such pronunciation errors might have been fossilized and therefore might still occur when learners are not presented with orthographic forms. Learners, especially lower level learners, still tend to pronounce "w" with what can be called a voiced bilabial fricative /β/. Most common learner errors on the words "now", "how", "low", "own", "lower", "slower", "power", and "towel" were respectively /na:v/, /ha:v/, /lov/, /ovn/, /lo:vır/, /slo:vər/, /pa:vər/, and /ta:vəl/. The /v/ sounds in these pronunciations are sometimes as strong as the voiced labio-dental /v/ in English; however, most times they are closer to the Turkish voiced bilabial fricative /β/, which is evidence for L1 phonology transfer. Still, many comprehensive pronunciations in this study are claimed to be somewhere in between, neither a /v/, nor a /β/. This could be interpreted as an example of an interlanguage (Selinker, 1972) developing in the course of time.

The source of such learner errors might be two-sided: phonology and orthography. Pronunciations of such words may be interpreted to have a /w/ sound because of the lip-pursing. However, the lack of "w" as a letter in Turkish may force learners to replace it with its closest counterpart in their mother tongue: "v". Nevertheless, even without the effects of phonological perception, learners might be influenced by the orthographic features of English and Turkish. The presence of "w" in any given word might lead learners to perceive and produce it as /β/, especially if they lack the necessary training and knowledge of this particular sound.

The assessment of the "w" category was particularly challenging, as stated by the native speakers. Figuring out whether learners produced a bilabial fricative /β/ or a labio-dental /v/ was difficult at times, which caused disagreements on both "unacceptable" – "comprehensible" and "comprehensible" – "perfect" dimensions; e.g. /lov, loβ, louv, louβ/ for "low", /nav, nauv, nauβ/ for "now".

The difficulty was more apparent for the ADV group, which could indicate a transition from /v/ to /β/ and/or from /β/ to target sounds in the pronunciation of diphthongs and triphthongs with a "w" letter. Raters agreed on 51 out of 80 pronunciations (63.7%) for the ADV group on the read-aloud task; and they agreed on 49 pronunciations out of 80 (61.2%) on the blank-filling. There were disagreements on the PIN group's assessment as well, but the extent to which the raters disagreed was smaller. On both recordings, native speakers agreed on 68 pronunciations out of the 80 (85%).

All in all, our conclusion is that the letter "w" has an inhibitory effect on Turkish learners' pronunciation. The scope of this study did not test "w" word-initially or in longer words; however, the results indicate that it frequently leads to pronunciation errors –mostly through the insertion of a Turkish bilabial fricative /β/, which was called a "half vowel" by Demircan (2015).

5.3.2.3 The "word-final" category

Research question 2-d: Is there a significant difference between students' pronunciation of words with a word-final diphthong in read-aloud and blank-filling tasks?

ADV group's performance in the word-final category did not display a statistically significant relation between the read-aloud and blank-filling tests. Since the NSs agreed on only one category regarding PIN learners' performance in word-final category, a statistical analysis could not be made for the PIN group. It is worth mentioning that the counts were 20 comprehensible productions on the read-aloud and 19 comprehensible productions on the blank-filling test.

ADV group's number of comprehensible and perfect pronunciations was higher in the blank-filling test. However, the difference between two tests was not significant. The comprehensible pronunciation category was the only assessment made by NSs for the PIN group.

The words "no" and "go" were most frequently pronounced with a monophthong, which was identified as a comprehensible pronunciation of the diphthong /oʊ/ by NSs. The ADV group did produce perfect pronunciations; however, the PIN group seemed to produce only comprehensible pronunciations and zero perfect pronunciations.

The word-final category only included words that end in /oʊ/. As discussed before, the diphthong /oʊ/ is a phoneme that might be difficult to perceive because the glide is not as extensive as the one in /aʊ/. As a result, both PIN and ADV level learners seem to have difficulty pronouncing this diphthong. When a word ends with /oʊ/, learners tend to produce a monophthong, which can be attributed to perception difficulties.

Regarding the inter-rater agreement of the word-final category, PIN group displayed a significantly clear picture. Raters agreed on 20 out of 20 (100%) pronunciations for

the read-aloud and 19 out of 20 (95%) for the blank-filling task. PIN group's pronunciation errors were all really clear and audible to the native speakers. They all produced comprehensible pronunciations of the target sounds. For the ADV group, native speakers, as stated before, found it challenging to decide between "comprehensible" and "perfect" pronunciations. The pronunciation of the words "so" and "go" often included a monophthong as in /go, go:/ and /so, so:/. Since the two vowels in the diphthong /oʊ/ are both round vowels, it seems that it is not only difficult for learners to perceive this diphthong accurately, but the native speakers also had difficulty whether the lip-rounding was sufficient and the pronunciation sounded "perfect" or not. It appears that ADV level learners are nearing perfection in their pronunciation; however, they still display non-native characteristics in their speech.

It could again be argued that the issue is two-sided: There is the difficulty of perceiving the diphthong /oʊ/ despite its challenging nature, and there is also the irregular orthography of English, which creates challenges for Turkish learners. However, our results indicate a stronger influence of phonology rather than orthography in this category. The diphthong /oʊ/ continues to have its phonological influence on Turkish learners even when they are not presented with orthographic input.

5.4. Awareness of diphthongs and triphthongs

Research question 3: Is there a significant difference in learners' performance between read-aloud and word pronunciation tasks?

ADV learners' performances in the read-aloud and word pronunciation tasks were not significantly different. On the other hand, there was a significant relation between PIN groups' pronunciation of target sounds in read-aloud and word pronunciation tests. The fact that ADV learners' performances in the read-aloud and word pronunciation tasks were not significantly different from each other means that they have a certain level of awareness even when the sounds are embedded sentence-medially. They still did well even though they were not told that their pronunciation would be assessed by NSs. This could mean that ADV learners have good perception and awareness of diphthongs and triphthongs even when they are not exclusively being tested on pronunciation. It is worth mentioning, however, that they generally pronounced more words "perfectly" when they were told that it was a pronunciation test. For example, a few ADV learners pronounced the word "home" with a monophthong in the read-aloud task. However, the same participants used a diphthong in the word pronunciation task. Such differences could have stemmed from the nature of the word pronunciation task, which might lead learners to be more precise in their pronunciation. Yet, it could also be a reminder that diphthongs and triphthongs are subject to change in speech tempo (McCully, 2009).

The fact that ADV learners still produce pronunciation errors as PIN learners do might be an indicator of the fact that proficiency level of a learner does not give us clearly defined lines of their subskills in that language. Some ADV learners were highly competent in the current study and some not as much. Belonging to a level of proficiency may not be the sole indicator of one's specific skills in that language.

PIN group, on the other hand, yielded different results. PIN group produced significantly fewer errors and more perfect pronunciations when they were asked to pronounce words correctly and in isolation. Therefore, PIN group may be considered

to have a lower level of awareness when sounds are embedded within sentences. Learners at lower levels may also have other concerns or they might be focusing on their ability to read the sentence as a whole, and therefore certain sounds might be lost in pronunciation.

Such processes learners go through can best be explained by an interlanguage running its course. ADV learners had more perfect pronunciations than the PIN learners in the pronunciation task. They also had more comprehensible pronunciation as opposed to unacceptable pronunciations. It appears that, in time, unacceptable pronunciations are replaced by comprehensible ones. And comprehensible pronunciations could be replaced by perfect productions. Such transitions are not clear cut and learner dependent, which makes interlanguage a highly personal process.

Similar to the previous inter-rater agreement descriptions, native speakers agreed more often on the PIN learners' pronunciations: 142 out of 160 (88.7%) for the read-aloud and 149 out of 160 (93.1%) for the word pronunciation task. The counts were lower for the ADV group: 111 out of 160 (69.3%) for the read-aloud and 142 out of 160 (88.7%) for the word pronunciation task. Overall, the PIN group mostly displayed more obvious characteristics in their speech while ADV level learners exhibited certain patterns which can be considered as an indicator of the transition or the interlanguage that they are developing. To illustrate, PIN level learners mostly produced "unacceptable" and "comprehensible" pronunciations such as /nov, nav, naβ/ for "now" and /lauv, lov, loβ/ for "low" while ADV level learners mostly pronounced these words as /nauβ, naʊ/ and /louβ, loʊ/, which were considered "comprehensible" and "perfect". Shortly, the PIN level learners' pronunciations were mostly evaluated within the "unacceptable-comprehensible" dimension while the ADV group was in the "comprehensible-perfect" dimension.

5.5. Sound specific results

In order to make sound-specific comments, this part of the results provides the pronunciation counts of each sound obtained from native speaker judgments along with their conclusions. For a general picture, the total number of pronunciation counts of diphthongs and triphthongs that the native speaker judges agreed on is provided below. In the next sections, sound specific results will be provided for both the PIN and the ADV groups. Tables 11 and 12 below show the pronunciation counts of the diphthongs in all three tasks.

Table 11 Judges' assessments of the pronunciation of diphthongs for the PIN group

PIN diphthongs	read-aloud	blank-filling	word pronunciation	total # of agreed judgments in each assessment category
unacceptable	20	11	7	38
comprehensible	68	68	62	198
perfect	21	32	44	97
total # of agreed judgments in each task	109/120	111/120	113/120	333/360

Table 12 Judges' assessments of the pronunciation of diphthongs for the ADV group

ADV diphthongs	read-aloud	blank-filling	word pronunciation	total # of agreed judgments in each assessment category
unacceptable	4	1	8	13
comprehensible	34	31	41	106
perfect	47	62	58	167
total # of agreed judgments in each task	85/120	94/120	107/120	286/360

Regarding the pronunciation of the diphthongs, it is clearly seen that the PIN group mostly produces "comprehensible" pronunciations whereas the ADV group produces "perfect" pronunciations more often. ADV group's "unacceptable" pronunciation count is rather low, indicating that the interlanguage they are developing is at a level that is mostly on the comprehensible-perfect dimension, with a bias towards perfection. PIN group, on the other hand, displays a lower profile. The transition they are going through still mostly concerns pronunciations with errors. However, it is worth mentioning that PIN group's "perfect" pronunciation count is higher than their "unacceptable" pronunciation counts. See Tables 13 and 14 for the pronunciation totals for the triphthongs.

Table 13 Judges' assessments of the pronunciation of triphthongs for the PIN group

PIN triphthongs	read-aloud	blank-filling	word pronunciation	total # of agreed judgments in each assessment category
unacceptable	17	14	18	49
comprehensible	15	17	17	49
perfect	1	4	1	6
total # of agreed judgments in each task	33/40	35/40	36/40	104/120

Table 14 Judges' assessments of the pronunciation of triphthongs for the ADV group

ADV triphthongs	read-aloud	blank-filling	word pronunciation	total # of agreed judgments in each assessment category
unacceptable	3	2	10	15
comprehensible	16	8	19	43
perfect	7	12	2	21
total # of agreed judgments in each task	26/40	22/40	31/40	79/120

The pronunciation of triphthongs was challenging for both the PIN and the ADV level learners. The ADV group did specifically well on the blank-filling test, which may indicate that being free of orthographic input facilitated pronunciation for this group. In the other two tests, where written forms were presented, the ADV learners had considerably fewer "perfect" pronunciations and more "comprehensible" and "unacceptable" ones. This pattern in the ADV group's pronunciation of the triphthongs was not seen in the PIN group. In all three tasks, the PIN group performed almost identically the same. It might be too optimistic to argue that the 4 "perfect" pronunciations on the blank-filling task (as opposed to 1 in the other two tasks) is an obvious sign of orthographic influence.

5.5.1 Diphthongs

In this section, the numerical results regarding the diphthongs will be provided and discussed in detail.

5.5.1.1 /oʊ/

Regarding the diphthong /oʊ/, the PIN group mostly had comprehensible pronunciations whereas the ADV group's pronunciation patterns were more spread out to both comprehensible and perfect pronunciation categories (See Tables 15 and 16).

Table 15 Judges' assessments of the pronunciation of the diphthong /oʊ/ for the PIN group

PIN /oʊ/	read-aloud	blank-filling	word pronunciation	total # of agreed judgments in each assessment category
unacceptable	11	9	7	27
comprehensible	56	50	51	157
perfect	9	12	19	40
total # of agreed judgments in each task	76/80	71/80	77/80	224/240

Table 16 Judges' assessments of the pronunciation of the diphthong /oʊ/ by the ADV group

ADV /oʊ/	read-aloud	blank-filling	word pronunciation	total # of agreed judgments in each assessment category
unacceptable	4	1	8	13
comprehensible	26	24	33	83
perfect	24	37	33	94
total # of agreed judgments in each task	54/80	62/80	74/80	190/240

The diphthong /oʊ/ proves to be challenging for Turkish learners regardless of their proficiency level. As one would expect, the ADV level learners performed better than the PIN level learners; however, their "comprehensible" pronunciation count was just as high as their "perfect" pronunciation count. In other words, even the ADV level learners of English are having difficulty with diphthong /oʊ/. The representation of /oʊ/ is very often realized through a monophthong by Turkish learners. We believe that this is caused by the rather unobvious transition within this diphthong. The vowels /o/ and /ʊ/ are both produced in the back of the oral cavity, and their place of articulation is closer to each other than /aʊ/, for instance, where the transition is much more obvious. Therefore, we believe that the challenge in recognizing and perceiving the diphthong /oʊ/ is naturally creating pronunciation problems for Turkish learners.

An interesting result from the ADV group was that they had the highest number of "unacceptable" pronunciations in the word pronunciation test. In other words, they produced more pronunciation errors when they were asked to pronounce words in isolation. This might mean that some errors are lost in speech tempo and therefore are not recognized as easily by the native speakers, which is a good sign for any L2 learner since people are not usually asked to pronounce one single word for no reason.

5.5.1.2 /aʊ/

Regarding the diphthong /aʊ/, perhaps the most striking result is that the ADV group did not produce any unacceptable pronunciations in any of the recordings, which can be said for the PIN group in the word pronunciation test (See Tables 17 and 18 below). PIN group seemed to produce mostly comprehensible and perfect

pronunciations. ADV group, on the other hand, did particularly well on /aʊ/, producing perfect pronunciations most of the time. As discussed before, the diphthong /aʊ/ proved to be more learner-friendly as far as Turkish learners are concerned. As mentioned earlier, the sound itself, with orthographic patterns corresponding to it excluded, appears easier to perceive and therefore produce for Turkish learners. The explanation to this is the more obvious difference between /a/ and /ʊ/. /a/ is a low and unrounded vowel whereas /ʊ/ is high and rounded. As a result, the glide from /a/ to /ʊ/ is heard and noticed more clearly, which in turn, I would argue facilitates pronunciation as well –although the sound does not exist in the Turkish sound inventory.

Table 17 Judges' assessments of the pronunciation of the diphthong /aʊ/ by the PIN group

PIN /aʊ/	read-aloud	blank-filling	word pronunciation	total # of agreed judgments in each assessment category
unacceptable	9	2	0	11
comprehensible	12	18	11	41
perfect	12	20	25	57
total # of agreed judgments in each task	33/40	40/40	36/40	109/120

Table 18 Judges' assessments of the pronunciation of the diphthong /aʊ/ by the ADV group

ADV /aʊ/	read-aloud	blank-filling	word pronunciation	total # of agreed judgments in each assessment category
unacceptable	0	0	0	0
comprehensible	8	7	8	23
perfect	23	25	25	73
total # of agreed judgments in each task	31/40	32/40	33/40	96/120

From an orthographic point of view, it can be said that certain letter combinations are less faithful to the grapheme-phoneme correspondence in English. For instance, "ow" can refer to /oʊ/ or /aʊ/ depending on the surrounding sounds, which is tricky for learners. For instance, the pronunciation of "low, row, slow" is respectively /loʊ, roʊ, sloʊ/, but the words "how, now, cow, down" are pronounced /haʊ, naʊ, kaʊ, daʊn/. Some PIN learners in the current study produced the word "now" as /noʊ/ or / nov/ a few times.

Regarding the inhibitory effect of the letters in which this sound appears, our observation was that the letter "w" plays a major role hindering Turkish learners' pronunciation of this sound. Learners did not have difficulty with the two-vowel words "house" and "out"; however, when "w" is involved in the words "how" and "now", learners tend to produce the monophthong /o/ or /o:/ which is followed by a voiced bilabial fricative /β/. This leads us to the conclusion that the phonologically facilitative nature of this sound is lost when orthography interferes. It is worth mentioning that, in some cases, learners produced the diphthong with /β/; e.g. /haʊβ, naʊβ/, which we take to be a transition towards a more nativelike phonology.

5.5.2 Triphthongs

In this section, the numerical results regarding the triphthongs will be shared and discussed in detail.

5.5.2.1 /oʊə/

As can be seen from Tables 19 and 20 below, the triphthong /oʊə/ seems to be problematic for both the PIN and the ADV level learners. Both groups produced errors most of the time although they still remained "comprehensible". The number of "perfect" pronunciations is significantly low. For the triphthong /oʊə/, learners mostly produced a monophthong /o:/ followed by the voiced bilabial fricative /β/. Once again, the ADV group's "unacceptable" pronunciation count increased in the word pronunciation test, and they produced 0 "perfect" pronunciations on the same test (see Tables 19 and 20 below).

Table 19 Judges' assessments of the pronunciation of the diphthong /oʊə/ by the PIN group

PIN /oʊə/	read-aloud	blank-filling	word pronunciation	total # of agreed judgments in each assessment category
unacceptable	4	1	1	6
comprehensible	15	14	16	45
perfect	0	2	0	2
total # of agreed judgments in each task	19/20	17/20	17/20	53/60

Table 20 Judges' assessments of the pronunciation of the diphthong /oʊə/ by the ADV group

ADV /oʊə/	read-aloud	blank-filling	word pronunciation	total # of agreed judgments in each assessment category
unacceptable	1	0	4	5
comprehensible	13	6	15	34
perfect	1	3	0	4
total # of agreed judgments in each task	15/20	9/20	19/20	43/60

As regards the causes behind learner errors, it must be pointed out that both /oʊə/ words (lower, slower) were in the "w" category, the challenging nature of which has been discussed earlier in the study. Consequently, learners often produced such pronunciations as /slo:vər/ and /sloʊvər/. Few participants (2 PIN and 4 ADV learners in total) "perfectly" pronounced these words.

Among other causes of pronunciation errors is the possibility that triphthongs develop late due to the lower frequency of these sounds compared to diphthongs. It may also be that tests such as ours put a certain amount of pressure on the participants, which might affect their performance.

5.5.2.2 /aʊə/

The triphthong /aʊə/ yielded relatively better results for the ADV group when compared to /oʊə/ (See Tables 21 and 22 below). Similar to the relationship between the diphthongs /oʊ/ and /aʊ/, these triphthongs are only different in quality regarding

the first target sound. The target words with the triphthong /aʊə/ were also in the "w" category.

However, the PIN group performed even more poorly on /aʊə/ although the tongue and jaw movement is larger and more noticeble. The two words "power" and "towel" were pronounced using short monophthongs and the voiced labio dental fricative /v/, and sometimes the voiced bilabial fricative /β/. It seems that higher level learners have quicker access to features that might be more facilitative in terms of pronunciation; in this case the obviously noticeable articulation of /aʊə/ when compared to that of /oʊə/.

Still, the triphthong /aʊə/ caused difficulty for both groups and we relate that primarily to the rather less frequent use of the triphthongs compared to the diphthongs and the orthographic presence of the letter "w" as an extra-linguistic factor.

Table 21 Judges' assessments of the pronunciation of the diphthong /aʊə/ by the PIN group

PIN /aʊə/	read-aloud	blank-filling	word pronunciation	total # of agreed judgments in each assessment category
unacceptable	13	13	17	43
comprehensible	0	3	1	4
perfect	1	2	1	4
total # of agreed judgments in each task	14/20	18/20	19/20	51/60

Table 22 Judges' assessments of the pronunciation of the diphthong /aʊə/ by the ADV group

ADV /aʊə/	read-aloud	blank-filling	word pronunciation	total # of agreed judgments in each assessment category
unacceptable	2	2	6	10
comprehensible	3	2	4	9
perfect	6	9	2	17
total # of agreed judgments in each task	11/20	13/20	12/20	36/60

Statistical analyses were also carried out to see if there were any significant differences when learners were presented with different task types. The only significant differences between different tasks were found in PIN learners' pronunciation of /aʊ/. PIN learners seemed to be influenced by the presentation of orthographic input negatively as opposed to the read-aloud task; and they did better on the word pronunciation task compared to the read-aloud. Apart from that, sound specific comparisons of these tasks showed no significant results in either PIN or ADV groups.

5.6. Summary and evaluation of the results

This study has a two-pronged approach: an investigation of the development of diphthongs and triphthongs and an analysis of certain orthographical patterns with respect to their effects on pronunciation, which we take to be an aspect of acquisition. The developmental investigation was based on the comparison between pre-intermediate and advanced level learners. To study the influence of orthography, we

looked at certain letter combinations and the word-final position where the sounds of interest are used in a word. The orthographical categories were "w", one-vowel and two-vowel categories, which were devised on the basis of the researcher's experience as a teacher of English. We predicted that the "w", one-vowel and the word-final categories would have an inhibitory effect on the pronunciation of the sounds. We also predicted that the two-vowel category could have a facilitative effect on learners' pronunciation.

We found that the proficiency level has a significant effect on learners' phonology acquisition. ADV level learners appeared to be developing a higher level of interlanguage phonology with more "comprehensible" and "perfect" pronunciations than the PIN group. PIN level learners produced a higher number of "unacceptable" pronunciations and fewer "perfect" pronunciations, which was an indicator of the process they are currently going through towards a more advanced phonology.

Our comparison of learners' performances in two different settings in an attempt to reveal the effects of orthography did not yield significant results for the word-final or the "w" categories. Learners seem to perform similarly regardless of the setting, which we take to mean that such errors might have been fossilized and that mental representations of words might still be in effect at the orthographic level even when learners are not presented with orthographic input. A comparison of one-vowel and two-vowel words resulted in significant differences in both the PIN and the ADV group.

Nevertheless, we found that the "w" category was the most inhibitory orthographic category of all, resulting mostly in the insertion of the Turkish voiced bilabial fricative /β/ in process. One-vowel and the word-final categories both seemed to

result in the production of short or long monophthongs instead of a diphthong. The words in two-vowel category, on the other hand, seemed to have a facilitative effect on pronunciation –as opposed to the ones in the one-vowel category.

With 20 participants from the same institution and 16 target words, our results and therefore generalizations are limited. Still, we can make generalizations in the scope of our study. As the richest category in terms of the number of tested words, generalizations can be made regarding the influence of the letter "w". We were able to test learners' performance in pronouncing diphthongs and triphthongs in 8 words in the "w" category. The inhibitory effect of "w" as part of a diphthong or triphthong is undeniable since all learners had difficulty in all three tasks when producing "w" category words.

The words in which there is a word-final diphthong and those with one vowel letter corresponding to a diphthong also seemed to be leading both the PIN and the ADV level learners to "comprehensible" pronunciations rather than "perfect" ones. Yet, more comprehensible generalizations could be made with more words. Words with two adjacent vowels corresponding to a diphthong proved a more facilitative effect on pronunciation. Although the number of words could have been increased, we could still generalize the results from the two-vowel category to a larger population considering its orthographically facilitative nature to specifically Turkish learners.

5.7. Limitations of the study and implications for further research

This study aims to describe how Turkish learners at university level pronounce diphthongs and triphthongs in English. Although we were able to draw conclusions within the scope and purpose of our research, there are limitations to it.

Firstly, all participants that took part in the study are students at the same university. Diversity in subjects could increase the generalizability of the results. Moreover, the present study had 10 PIN and 10 ADV level learners along with two native speaker referents. A relatively larger number of participants from more diverse levels and more native speakers could help reach more detailed and definitive conclusions. Including more proficiency levels in future studies could give more promising results regarding the processes learners go through in L2 phonology acquisition. Since the recording sessions were held individually, there were time constraints because of the availability of the studio and learners' class schedules; and therefore, the number of participants could not be increased any further.

Another limitation of the study could be that the same participants took part in all three recordings, each one week apart. Once the participants were presented with the stimuli in the first recording, they might have grown familiar with the words by the time they did the second recording –although the sentences were not the same. For future work, non-words could also be used in order to avoid familiarity effects.

The orthographic categories used in the study were merely based on the researcher's observations. They were not drawn from a previous study, where their validity could have been proven. Moreover, it was more difficult to find words for certain categories and sounds, which also affected the frequency of the words that were used in the

study. Therefore, the sounds were not tested using an equal number of words in each category. Studies with more words can be carried out for a more comprehensive picture of Turkish learners' pronunciation of diphthongs and triphthongs. Lastly, the vowels surroundings the target sounds were not taken as criteria in forming the stimuli in the current study. This could be done to avoid such external factors in future studies.

Only production of diphthongs and triphthongs was included in this study. Perception and production in L2 phonology are closely related. Therefore, for a better understanding of the processes that learners go through, their perception of these sounds could be tested in future studies. More advanced technology could be used for further research in order for the experiments to yield more detailed and comprehensive results.

The present study included audio recordings of participants which were evaluated by native speakers who listened to these recordings using headphones. For a more detailed picture of learners' pronunciation of the sounds, further research can be carried out to see the vocal formants as they produce the sounds. Video recordings could also be helpful in understanding the articulation of these sounds by learners.

5.8. Pedagogical implications

Teaching pronunciation in a second language is a challenge. ESL teachers may feel uneasy about teaching pronunciation because they lack training in phonetics or linguistics or experience in teaching pronunciation. As a result, although it has a recognized importance to communication, pronunciation is still a marginalized skill

in many ESL programs (Lane, 2010). It is often claimed by EFL instructors that they do not have time for explicit pronunciation teaching. Especially in lower levels, teachers may want to focus more on grammar, vocabulary and skills such as reading comprehension and writing.

In the present study, PIN and ADV learners of English displayed certain patterns pronouncing the diphthongs and triphthongs in the scope of the research. PIN group in particular produced more errors in all three recordings. The words used in the study are all part of the vocabulary journal starting from the beginning levels at the Department of Basic English, where they study. However, pronunciation of vocabulary items may not be the priority of instructors. The fact that PIN level learners produced more errors might be associated with such teaching practices. Some of these errors are carried into the later stages of L2 acquisition; as a result, even some ADV learners produce similar errors in their speech. Therefore, teaching of pronunciation must be a routine for language teachers starting from the lowest levels.

Teaching of pronunciation does not solely have to be a part of vocabulary teaching. Certain sounds that are challenging for the learners may also be highlighted in isolation. Introduction of diphthongs and triphthongs, for instance, could increase Turkish learners' awareness of these sounds, which are peculiar to the target language. When teaching new vocabulary, such sounds could be highlighted in order to ensure maximum retention.

The perception of diphthongs and triphthongs was not in the scope of this study. However, it goes without saying that perception of these sounds is a preliminary for their pronunciation. During listening exercises, such sounds may be highlighted by

teachers in order to make sure that learners can identify and distinguish them. Especially speaker-dependent sounds like vowels may require more time and effort with respect to both perception and production. Therefore, depending on the nature of the task, teachers may need to give immediate or delayed feedback on their students' perception and pronunciation of sounds that pose a challenge in class.

The diphthong /oʊ/ particularly created difficulty for learners in this study. As discussed before, this could be attributed to the articulatory nature of the glide. Instructors may need to draw attention to the fact that such diphthongs are difficult to recognize because of the similarity between the beginning and ending of the glide. Describing why the diphthong /aʊ/ might be easier to perceive and produce could help learners understand the matter more clearly.

As hypothesized, the orthography-phonology conflict in English led participants to produce pronunciation errors. Words with a "w" led learners to the production of a Turkish voiced bilabial fricative /β/. Teachers of English in Turkey need to clarify the possible pronunciations of the letter "w" in English. Similarly, the deep orthography of English needs to be emphasized in ESL classes in Turkey. The same letter combinations may correspond to different sounds, as opposed to Turkish, where this correspondence is much stronger. The number of vowel letters in a word does not necessarily determine whether it should be pronounced with a monophthong, diphthong, or triphthong, which makes them tricky for learners. Word-final vowels also seemed to lead to monophthong productions. Teachers need to train students using various activities and examples such as minimal pairs, pronunciation drills and listening exercises.

When the sound systems of L1 and L2 are so different, language teachers may find it challenging to help their learners achieve native-like pronunciation. However, with explicit pronunciation instruction, challenges can be overcome (González-Bueno, 1997). Students' confidence level will also increase as they start producing fewer errors.

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APPENDICES

A. TABLE OF WORDS, ORTHOGRAPHIC CATEGORIES, AND TARGET SOUNDS

	/oʊ/	**/aʊ/**	**/oʊə/**	**/aʊə/**
"w"	low, own	how, now	lower, slower	towel, power
word-final	so, go	-	-	-
one-vowel	open, home	house, out	-	-
two-vowel	soul, road	-	-	-

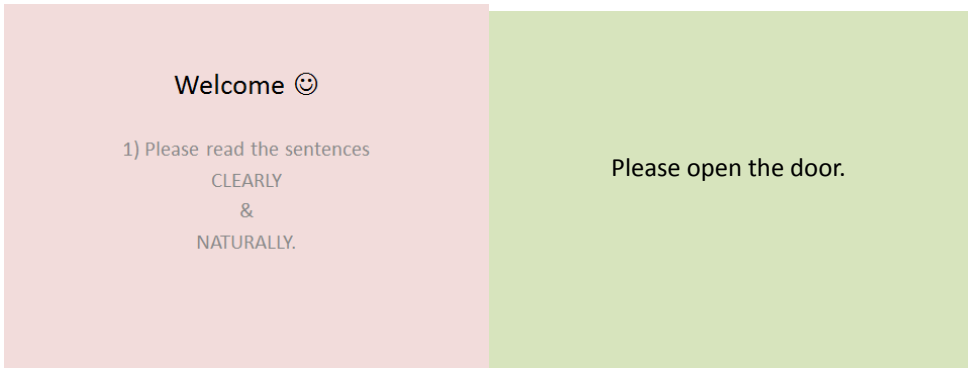
B. LIKERT SCALE

word	expected sound	0 (unacceptable)	1 (comprehensible with an error)	2 (perfect)
out	/aʊ/	_____	/aʊvt/	/aʊt/
go	/oʊ/	/go/	/go:/	/goʊ/
open	/oʊ/	_____	/opən/ /o:pən/	/oʊpən/
now	/aʊ/	_____	/nav/ /naʊv/	/naʊ/
slower	/oʊə/	_____	/slovər/ /slo:vər/ /sloʊvər/	/sloʊər/
soul	/oʊ/	/sol/ _____	/so:l/	/soʊl/
towel	/aʊə/	/tʌvəl/ _____ _____	/ta:vəl/ /taʊvəl/	/taʊəl/
so	/oʊ/	/so/	/so:/	/soʊ/
own	/oʊ/	_____ _____	/ovn/ /oʊvn/	/oʊn/

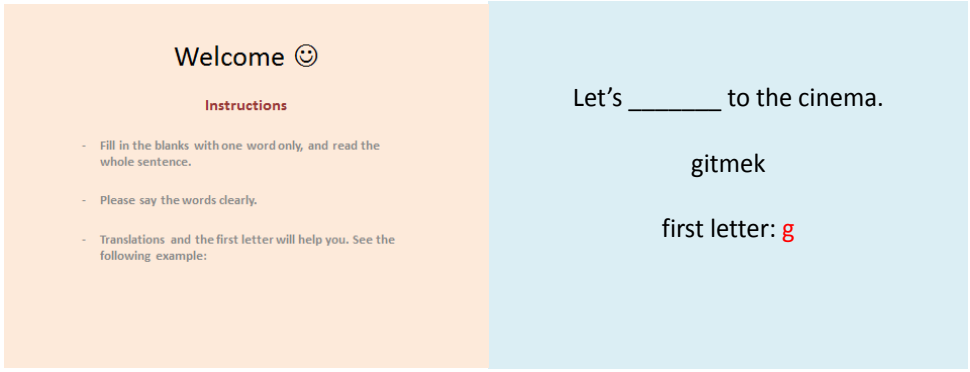
word	expected sound	0 (unacceptable)	1 (comprehensible with an error)	2 (perfect)
lower	/oʊə/	/lʌvər/ _____	/lovər/ /lo:vər/ /loʊvər/	/loʊər/
home	/oʊ/	_____	/hom/ /ho:m/	/hoʊm/
house	/aʊ/	_____	/haʊvs/	/haʊs/
how	/aʊ/	_____	/hʌv/ /haʊv/	/haʊ/
road	/oʊ/	/rod/	/ro:d/	/roʊd/
power	/aʊə/	/pa:vər/	/paʊvər/	/paʊər/
low	/oʊ/	/lov/	/lo:v/ /loʊv/	/loʊ/

C. POWERPOINT SLIDES USED IN THE MAIN STUDY

Read-aloud task (Recording 1)



Blank-filling task (Recording 2)



Word pronunciation task (Recording 3)

D. SENTENCES USED IN THE READ-AOULD TASK (in the order they appear)

- I twisted my ankle.
- Watch **out** for lions.
- The forest looks great.
- Please, **go** to class.
- I have a headache.
- Please **open** the door.
- I am a doctor.
- He **now** lives here.
- The **slower**, the better.
- The weather is beautiful.
- His **soul** is at peace.
- Let's have a race.
- This **towel** is wet.
- We never visit her.
- He left, **so** she changed.
- Change the channel, please.
- I **own** six cars.
- Swimming is real fun.
- He got **lower** grades.
- She really likes jogging.
- Our **home** is beautiful.
- This city is great.
- Your **house** looks fantastic.
- The game has finished.
- That guy is funny.
- This **road** is huge.
- The exam was horrible.
- Watch **how** they fly.
- I like watching cartoons.
- More **power** is needed.
- The movie was horrible.
- He has **low** grades.

E. SENTENCES USED IN THE BLANK-FILLING TASK (in the order they appear)

- My brother is sick.
- These people are new.
- Let's **go** to the cinema.
- You never help me.
- Her **soul** rests in peace.
- You speak too fast.
- Your **house** looks amazing.
- I really like her.
- Honda is **slower** then Suzuki.
- That is my pencil.
- I was ill, **so** she helped.
- That girl is smart.
- I got a **low** grade.
- I will **open** a bookshop.
- My head really hurts.
- The **power** button doesn't work.
- I swim really fast.
- Please get **out** of the class.
- The doctor is ready.
- We are **now** ready.
- That apple was delicious.
- I wonder **how** she failed.
- The class is so loud.
- The blue **towel** is missing.
- I like funny people.
- I've come **home** early.
- This room is huge.
- Study on your **own**, please.
- This new game is great.
- The race was really exciting.
- The new **road** looks good.
- The exam was hard.
- He has a **lower** salary than me.

F. WORDS USED IN THE WORD PRONUNCIATION TASK (in the order they appear)

- my
- **out**
- forest
- **go**
- have
- **open**
- doctor
- **now**
- **slower**
- weather
- **soul**
- race
- **towel**
- never
- **so**
- channel
- **own**
- real
- **lower**
- really
- **home**
- city
- **house**
- game
- guy
- **road**
- exam
- **how**
- like
- **power**
- movie
- **low**

G. DEMOGRAPHIC QUESTIONNAIRE

Dear Students,

This questionnaire is part of a thesis study carried out at the Middle East Technical University, Social Sciences, Department of Foreign Languages. It has been prepared to find out about the linguistic skills of learners at the Department of Basic English.

In the next part of the study, there will be individual voice recording sessions.

If there is something that you would like to ask me about the questionnaire, I am available at:

- 0555 545 08 54 or 0312 210 21 86
- albaglar@metu.edu.tr

Researcher: Anıl Albağlar
Middle East Technical University
School of Foreign Languages
Department of Basic English

Please answer the following questions. **Name:** _____

1. What is your gender?
a) Male b) Female

2. How old are you?
a) 18-22 b) 23 or older

3. How long have you been learning English?
a) Since Kindergarten b) Since 1st grade c) Since 4th grade d) Other _____

4. Have you ever been to a country where English is spoken?
a) Yes b) No

5. Have you ever stayed/lived with a native speaker of English?
a) Yes b) No

6. Have you ever had a native speaker as your teacher?
a) Yes b) No

7. What was your level in the first semester at DBE?
a) Beginner b) Elementary c) Intermediate d) Upper-Intermediate

8. What is your current level at DBE?
a) Pre-Intermediate b) Advanced

9. What was your GPA in the previous semester
____ out of 45

H. PARTICIPANT CONSENT FORM

Gönüllü Katılım formu

Bu araştırma, Orta Doğu Teknik Üniversitesi Temel İngilizce Bölümü öğretim elemanı Anıl Albağlar tarafından yapılmaktadır. Araştırma, Temel İngilizce Bölümü öğrencilerinin araştırmacı tarafından belirlenmiş dilbilimsel becerilerini ortaya çıkarmak amaçlı tasarlanmıştır. Süreç sonunda araştırmacı tarafından çalışmanın asıl amacı tüm katılımcılara açıklanacaktır. Araştırmanın tüm evrelerinde toplanan bilgiler sadece bu araştırma için kullanılacak ve kesinlikle gizli tutulacaktır.
Katılım tamamen gönüllüdür. Ankette katılımcıları rahatsız edecek hiçbir soru bulunmamaktadır. Araştırmanın herhangi bir evresinde katılımcı olmaktan vazgeçmek isterseniz, araştırmacıyı bilgilendirmeniz yeterlidir. Araştırmanın ikinci evresinde katılımcılarla bireysel ses kayıtları yapılacaktır.
Araştırmayla ilgili oluşabilecek sorularla ilgili iletişim bilgileri:

Anıl Albağlar

ODTÜ, Temel İngilizce Bölümü
0312 210 21 86

Çalışmaya gönüllü olarak katılmayı kabul ediyorum.

Katılımcının Adı-Soyadı: _____

İmza: _____

Tarih: _____

I. TÜRKÇE ÖZET

İNGİLİZCE'Yİ 2. DİL OLARAK ÖĞRENEN TÜRK ÜNİVERSİTE DÜZEYİ ÖĞRENCİLERİN İNGİLİZCE'DEKİ KARMA ÜNLÜLERİ TELAFFUZU

1. GİRİŞ

İkinci dil fonolojisini anlama ve üretme düzeylerinde kusursuz seviyeye getirmek çoğu öğrencinin tam anlamıyla başaramadığı bir durumdur (Flege & Fletcher, 1992; Flege, Munro, & MacKay, 1995; Young-Scholten, 1995). Bunun sebepleri arasında öğrencinin yaşı, öğretmenlerin ders işleyiş biçimleri ve çalışma metodları gibi çeşitli faktörler gösterilebilir. Bir diğer yaygınca tartışılan faktör de anadilin ikinci dil üzerindeki etkisidir (Flege, 1980, 1992 & 1995; Pater & Tessier, 2003; Odlin, 1989). Selinker (1972) ikinci dil öğrenen kişilerin bu edinim sürecinde sergiledikleri farklı dil patternleri için "interlanguage" kavramını ortaya atmıştır. Bu çalışmada, Türk öğrencilerin İngilizce'deki karma ünlüleri (diphthong ve triphthong) telaffuzu incelenerek, dil ediniminde geçtikleri bu süreçler anlaşılmaya çalışılmıştır.

İngilizce'deki karma ünlüler Türk öğrenciler için zorluk yaratmaktadır. Bunun sebeplerinden biri Türkçe'de bu ünlülerin olmaması olabilir (Yavuz & Balcı, 2011). Türkçe'de birbirini takip eden iki ünlü görülebilse de, bu sesler İngilizce'deki karma ünlülerin özelliklerini taşımamaktadırlar. İngilizce'de karma ünlüler daha belirgin olan bir ilk kısımdan ve daha az belirgin olan ikinci ve/veya üçüncü kısımdan oluşur. Hatta çift ünlü ve üç ünlü hecelerdeki son ünlünün telaffuzu bazen o kadar kısa ve belirsizdir ki, tam olarak özelliklerini belirlemek oldukça zordur (Ladefoged & Johnson, 2011).

Bu çalışmada, örnek olarak "home" (ev) ve "open" (açık) sözcükleri katılımcılar tarafından sıklıkla /hom/ ve /'opən/, /o:pən/ şeklinde telaffuz edilmiştir. Benzer

şekilde birçok katılımcı “go” (gitmek) ve “so” (böylece, bu yüzden) sözcüklerini /go/, /go:/ ve /so/, /so:/ şeklinde telaffuz etmiştir. Üç ünlü hece içeren sözcükler “lower” (daha az/alçak) ve “power” (güç, kuvvet), içlerinde bulunan “w” harfine de bağlı olarak üç ünlü hece yerine “ünlü ya da çift ünlü + /v/ + ünlü” şeklinde telaffuz edilmiştir. Bu çalışma bu ve benzeri telaffuzları inceleyerek Türk öğrencilerin İngilizce fonoloji edinim sürecinin anlaşılmasına yardımcı olmaktadır.

Selinker’in (1972) Interlanguage Hipotezi (IL), öğrencilerin bir ikinci dili öğrenirken ne anadile ne de öğrenilen dile benzemeyen farklı bir sistem oluşturduklarını ortaya koymuştur. Bu ve benzeri sistemler öğrenciler tarafından anlaşılır olmak için kullanılan ve zaman içinde değişiklikler gösterir. IL, ikinci dil öğrenimi çerçevesinde birçok faktörü dikkate almıştır. IL ilk ve ikinci dil arasında bir köprü görevi gördüğü için, dil öğretiminde anadil ile hedef dilin karşılaştırılması konusu büyük önem taşımaktadır. Türkçe ve İngilizce arasındaki farklardan biri, harflerle sembolize ettikleri sesler arasındaki uyumdur. Türkçe oldukça saydam bir ortografiye sahiptir (Davis, 2005; Erdener & Burnham, 2005). Bir diğer deyişle, harfler çoğu zaman aynı sesleri sembolize eder (Ellis et al., 2004). Sesli harfler her zaman bir tek ünlü (monophthong) sesi sembolize eder. Sadece bazen sesin uzunluğu değişebilir. Örneğin;

“çok” - /ʧok/

“okul” - /o’kʊl/

“havlu” - /hav’lʊ/

Ancak İngiliz dili ortografisi Türkçe’ninki gibi saydam değildir; yani harflerle sembolize ettikleri seslerin uyum oranı çok daha düşüktür (Frost & Katz, 1992). Aşağıda bu çalışmada kullanılan sözcükler örnek olarak verilmiştir.

“soul” - /soʊl/ (ruh)

“house” - /haʊs/ (ev)

“road” - /roʊd/ (yol)

Ortografinin telaffuz üzerindeki etkisi birçok çalışma ile vurgulanmıştır (Timmer & Schiller, 2012; Carr et al., 1979; Katz & Feldman, 1983; Lems, 2012; Escudero &

Wanrooij, 2010; Ellis et al., 2004; Varol, 2012). Bu ve benzeri çalışmalar saydam ve saydam olmayan ortografilere sahip dillerin arasındaki farkları daha iyi anlamaya ve dolayısıyla bu dillerin öğrenimi sırasında ortaya çıkan zorluk ya da kolaylıkları daha net görmeye yardımcı olmaktadır.

Yabancı dilde mükemmele yakın telaffuz konusu uzun zamandır ilgilendiğim bir alan olmuştur. Çoğunlukla Türk öğrencilere İngilizce öğrettiğim için, profesyonel kariyerimin başlarından itibaren Türk öğrencilerin İngilizce'deki /oʊ/, /aʊ/ çift ünlü hecelerini ve /oʊə/, /aʊə/ üç ünlü hecelerini İngilizce'yi anadili olarak konuşan insanlardan farklı olarak telaffuz ettiklerini farketmeye başladım. Bu çalışma, Türkiye'deki bir devlet üniversitesinde orta altı (pre-intermediate) ve ileri (advanced) seviye öğrencilerin İngilizce'deki bu dört karma ünlüyü telaffuzlarını incelemektedir. İki farklı yeterlilik seviyesindeki grupla çalışmamızın amacı, farklı seviyelerdeki öğrencilerin bu telaffuz şeklini görerek, genel yeterlik seviyesi ile telaffuz şekillerinin arasında bir bağ olup olmadığını ortaya çıkarmaktır.

Çalışmanın bir diğer amacı da ortografinin, yani sözcüklerin yazılış biçiminin, öğrencilerin bu sesleri telaffuzunda bir etkisinin olup olmadığını araştırmaktır. Bu noktada, bazı harf ya da harf kombinasyonlarının katılımcıların telaffuzunu olumlu ya da olumsuz etkileyip etkilemediğine bakılacaktır.

2. LİTERATÜR ÖZETİ

Balas (2009): Bu çalışma Polonyalı öğrencilerin İngilizce'deki beş çift ünlü hecesini telaffuzunu araştırmıştır. Katılımcıların İngilizce'deki /ɪə/, /eə/ ve /ʊə/ seslerinin telaffuzunda sıkıntı yaşayacağı öngörülmüştür. Bu öngörünün sebebi olarak da Lehçe dilinde hiçbir ünlünün artikülasyonunda dil hareketinin bu karma ünlülerdeki gibi olmayışı gösterilmiştir. Lehçe'de bu seslerin tam karşılıklarının olmayışı da yaşanabilecek olası telaffuz zorluklarının sebebi olarak gösterilmiştir. Karma ünlüler anlamlı sözcükler kullanılarak 61 cümle içinde kullanılmış ve katılımcılar bu

cümleleri telaffuz ederek teste tabi tutulmuşlardır. 19 ila 25 yaş aralığında dokuz erkek katılımcı çalışmada yer almıştır. Katılımcıların hepsi ileri seviyede İngilizce konuşabilen öğrencilerdir. Toplanan very Praat yazılımı aracılığıyla incelenmiştir.
Balas (2009) Polonyalı katılımcıların /ıə/ çift ünlüsünü telaffuz ederken iki ses arasına /r/ ya da /j/ ünsüzlerini getirdiklerini gözlemlemiştir. Benzer bir şekilde, /eə/ ünlüsü de /er/ şeklinde telaffuz edilmiştir. Ayrıca, katılımcıların ürettiği bu /r/ ünsüzü ne İngilizce ne de Lehçe /r/ sesinin özelliklerini taşımaktadır. Bu, Interlanguage hipotezinin destekleyicisi niteliğinde bir bulgu olmuştur.

Markovic and Mlinar (2011): Bu çalışmada Sırp katılımcıların İngilizce'deki bütün (sekiz) çift ünlü heceyi telaffuzu araştırılmıştır**.** Katılımcıların anadilinde bu seslerin olmayışı sebebiyle telaffuzda zorluk yaşanacağı öngörülmüş ve analizler için bu çalışmada da Praat yazılımı kullanılmıştır.
Bu çalışmada, Sırp katılımcıların anadili İngilizce olan konuşmacılarla karşılaştırıldıklarında, bazı karma ünlülerin telaffuz uzunluğunda daha başarılı oldukları görülmüştür. Genel olarak model konuşmacıdan daha uzun süreli telaffuzlar göze çarpmıştır. Bunun açıklamalarından biri olarak Sırp dilinde iki ünlü sesin art arda telaffuz edilmeyişi ve dolayısıyla katılımcıların bu iki ünlüyü belirgin hale getirmek için daha fazla zaman harcaması olmuştur. Katılımcıların artikülasyon sırasında ağız boşluğunun içinde meydana gelen hareketlerde de model konuşmacıya nazaran bazı farklar göze çarpmıştır.

Kitagawa (2012): Çalışma, Japon öğrencilerin İngilizce'deki beş çift hece ünlüsünü telaffuzunu araştırmıştır. Bu seslerin Japonca'da olmayışının katılımcılar açısından engel teşkil edeceği öngörülmüştür. Kitagawa ayrıca bazı çift ünlülerin telaffuzunun daha zorlayıcı olabileceğini belirtmiş, bunun sebebinin de bu seslerdeki ilk ünlüden ikinciye geçişin diğerlerindeki kadar belirgin olmayışı olduğu öngörülmüştür.

Çalışmanın katılımcıları beş Japon öğrenci, beş Amerikan ve beş İngiliz konuşmacı olup, her birinden karma ünlülerin de anlamlı sözcüklerin içinde bulunduğu anlamlı bir metni okumaları istenmiştir. Elde edilen veri Praat yazılımıyla incelenmiştir.
Toplanan veri incelendiğinde, Japon öğrencilerin /oɪ, aɪ, aʊ/ karma ünlülerini model konuşmacılardan anlamlı bir fark doğuracak kadar farklı telaffuz etmedikleri ortaya çıkmıştır. Kitagawa, çalışma öncesinde Japon katılımcıların /əʊ/ ve /oʊ/ seslerini tek ünlü şeklinde telaffuz edeceklerini öngörmüş, ancak sonuçlarda anlamlı bir fark bulunamamıştır.

3. ARAŞTIRMA METODU

Bu bölümde çalışmada cevaplanacak araştırma soruları, katılımcılar, kullanılan veri toplama araçları ve araştırmanın uygulanması prosedürü açıklanacaktır.

3.1 Araştırma soruları

1) Orta altı ve ileri düzeyde İngilizce öğrenen öğrenciler arasında karma ünlülerin telaffuzu açısından istatistiksel olarak anlamlı bir fark var mıdır?
2) Ortografi, öğrencilerin bu karma ünlüleri telaffuzunda istatistiksel olarak anlamlı bir rol oynuyor mu?
a) Öğrencilerin sesli okuma (read-aloud) testi performansı ile boşluk doldurarak okuma (blank-filling) testi performansları arasında anlamlı bir fark var mı?
b) Öğrencilerin iki ünlü harf kategorisindeki sözcüklerle bir ünlü harf kategorisindeki sözcükleri telaffuzları arasında anlamlı bir fark var mı?
c) Öğrencilerin "w" harfi kategorisindeki sözcükleri telaffuzlarında sesli okuma (read-aloud) testi performansı ile boşluk doldurarak okuma (blank-filling) testleri performansları arasında anlamlı bir fark var mı?

d) Öğrencilerin sözcük sonunda çift ünlü hece bulunan sözcükleri telaffuzunda sesli okuma (read-aloud) testi performansı ile boşluk doldurarak okuma (blank-filling) testleri performansları arasında anlamlı bir fark var mı?
3) Öğrencilerin sesli okuma (read-aloud) testi performansı ile sözcük telaffuzu (word pronunciation) testi performansı arasında anlamlı bir fark var mı?

3.2 Katılımcılar

Çalışmaya 18-22 yaş arası, ana dili Türkçe olan, Orta Doğu Teknik Üniversitesi Temel İngilizce Bölümü sınıflarında orta altı ve ileri seviye kurlarında İngilizce öğrenen öğrenciler gönüllü olarak katılmışlardır. Her iki seviyeden de 10 öğrenci çalışmaya katılmıştır. Ayrıca Temel İngilizce Bölümü öğretim görevlilerinden iki Amerikan asıllı İngilizce öğretmeni de çalışmaya öğrencilerin telaffuzlarını değerlendirmek amacıyla katılmıştır.

3.3 Veri toplama gereçleri

Veri toplamak için üç farklı test geliştirilmiştir. Bu testlerin her biri ses kaydı toplama amaçlı testlerdir. İlk test, öğrencilerin verilen ekranda gördükleri cümleleri okudukları sesli okuma (read-aloud) testidir. İkinci test, öğrencilerin ekranda gördükleri cümlelerdeki boşlukları verilen ipuçlarını da kullanarak doldurduktan sonra seslendirdikleri boşluk doldurarak okuma (blank-filling) testidir. Üçüncü test ise, öğrencilerin ekranda gördükleri sözcükleri telaffuz ettikleri sözcük telaffuzu (word pronunciation) testidir.
Aşağıda, her bir testte kullanılan sözcük ve cümleler verilmiştir.

Sesli okuma testinde kullanılan cümleler:

- I twisted my ankle.
- Watch **out** for lions.
- The forest looks great.
- Please, **go** to class.
- I have a headache.
- Please **open** the door.
- I am a doctor.
- He **now** lives here.
- The **slower**, the better.
- The weather is beautiful.
- His **soul** is at peace.
- Let's have a race.
- This **towel** is wet.
- We never visit her.
- He left, **so** she changed.
- Change the channel, please.
- I **own** six cars.
- Swimming is real fun.
- He got **lower** grades.
- She really likes jogging.
- Our **home** is beautiful.
- This city is great.
- Your **house** looks fantastic.
- The game has finished.
- That guy is funny.
- This **road** is huge.
- The exam was horrible.
- Watch **how** they fly.
- I like watching cartoons.

- More **power** is needed.
- The movie was horrible.
- He has **low** grades.

Boşluk doldurarak okuma testinde kullanılan cümleler:

- My brother is sick.
- These people are new.
- Let's **go** to the cinema.
- You never help me.
- Her **soul** rests in peace.
- You speak too fast.
- Your **house** looks amazing.
- I really like her.
- Honda is **slower** then Suzuki.
- That is my pencil.
- I was ill, **so** she helped.
- That girl is smart.
- I got a **low** grade.
- I will **open** a bookshop.
- My head really hurts.
- The **power** button doesn't work.
- I swim really fast.
- Please get **out** of the class.
- The doctor is ready.
- We are **now** ready.
- That apple was delicious.
- I wonder **how** she failed.
- The class is so loud.
- The blue **towel** is missing.

- I like funny people.
- I’ve come **home** early.
- This room is huge.
- Study on your **own**, please.
- This new game is great.
- The race was really exciting.
- The new **road** looks good.
- The exam was hard.
- He has a **lower** salary than me.

Sözcük telaffuzu testinde kullanılan sözcükler:

- my
- **out**
- forest
- **go**
- have
- **open**
- doctor
- **now**
- **slower**
- weather
- **soul**
- race
- **towel**
- never
- **so**
- channel
- **own**

- real
- **lower**
- really
- **home**
- city
- **house**
- game
- guy
- **road**
- exam
- **how**
- like
- **power**
- movie
- **low**

Öğrencilerin telaffuzlarını değerlendirmek için iki Amerikan asıllı İngilizce öğretmeni, ana çalışmada yer almayan 3 öğrenciyle yapılan pilot çalışmadaki telaffuzları baz alarak bir Likert ölçeği hazırlamışlardır. Bu ölçek pilot çalışmada duyulan telaffuzların yanlış (0), hatalı fakat anlaşılır (1) ya da kusursuz (2) oluşları baz alınarak hazırlanmıştır. Pilot çalışmada duyulan telaffuzlar dışında da ana çalışmada duyulabilecek diğer yaygın hatalar da ölçeğe eklenmiştir. Model konuşmacılar, ana çalışmadaki öğrencilerin kayıtlarını dinlerken, ölçekte bulunmayan telaffuzlarla karşılaşırlarsa fonetik alfabe yardımıyla bunları da ölçeğe ekleyeceklerdir.

3.4 Yöntem

Testler arasında birer hafta ara olup, öğrenciler kayıt stüdyosuna birer birer alınmıştır. Macbook Pro bir dizüstü bilgisayar üzerinde daha önce hazırlanmış olan Powerpoint yansıları öğrencilere sunulmuş, her yansıda bir cümle/sözcük kullanılmıştır. Öğrenciler, yansıların geçiş hızını klavyenin yön tuşlarını kullanarak kendileri belirlemiştir.

3.5 Veri toplama ve veri analizi

Toplanan ses kayıtları, iki Amerikan İngilizcesi konuşmacısı tarafından, daha önce hazırlanan Likert ölçeği kullanılarak yanlış telaffuzlar için 0, hatalı fakat anlaşılır telaffuzlar için 1, kusursuz telaffuzlar içinse 2 değeri kullanılarak değerlendirilmiştir. Bu verilerin analizi de SPSS programı kullanılarak yapılmıştır. Daha sonra veriler üzerinde Pearson Ki-kare ve Kramer V korelasyon analizleri yapılmıştır.

4. SONUÇLAR

Çalışmanın sonuçları üç araştırma sorusunu cevaplamak üzere üç ana kısımda açıklanacaktır. Öncelikle, ilk araştırma sorusunu cevaplamak üzere orta altı ve ileri düzeyde İngilizce öğrenen öğrencilerin karma ünlüleri telaffuzunu karşılaştıran analizler sunulacaktır. İkinci araştırma sorusunu cevaplamak üzere öğrencilerin sesli okuma ve boşluk doldurarak okuma testleri arasındaki performans ilişkileri incelenecektir. Bu araştırma sorusunun alt sorularını cevaplamak üzere çeşitli ortografik kategorilerdeki sözcüklerin telaffuzu da yine bu bölümde paylaşılacaktır. Son olarak, öğrencilerin telaffuz farkındalıklarını ölçmeyi amaçlayan sesli okuma ve sözcük telaffuz testleri arasındaki ilişki incelenecektir.

Araştırma sorusu 1 ve sonuçları

Orta altı ve ileri düzeyde İngilizce öğrenen öğrenciler arasında karma ünlülerin telaffuzu açısından istatistiksel olarak anlamlı bir fark var mıdır?

Orta altı ve ileri seviye öğrencilerin tüm testlerdeki performansları bir arada karşılaştırıldığında anlamlı bir farka rastlanmıştır. Öğrencilerin yeterlik düzeyi ile karma ünlüleri telaffuzu arasında önemli bir bağıntı bulunmuştur. İleri seviye öğrencilerin daha iyi bir performans sergiledikleri gözlemlenmiştir.

Araştırma sorusu 2 ve sonuçları

Ortografi, öğrencilerin bu karma ünlüleri telaffuzunda istatistiksel olarak anlamlı bir rol oynuyor mu?

a) Öğrencilerin sesli okuma (read-aloud) testi performansı ile boşluk doldurarak okuma (blank-filling) testi performansları arasında anlamlı bir fark var mı?

b) Öğrencilerin iki ünlü harf kategorisindeki sözcüklerle bir ünlü harf kategorisindeki sözcükleri telaffuzları arasında anlamlı bir fark var mı?

c) Öğrencilerin "w" harfi kategorisindeki sözcükleri telaffuzlarında sesli okuma (read-aloud) testi performansı ile boşluk doldurarak okuma (blank-filling) testleri performansları arasında anlamlı bir fark var mı?

d) Öğrencilerin sözcük sonunda çift ünlü hece bulunan sözcükleri telaffuzunda sesli okuma (read-aloud) testi performansı ile boşluk doldurarak okuma (blank-filling) testleri performansları arasında anlamlı bir fark var mı?

İkinci araştırma sorusunun ilk alt sorusunu cevaplamak için, iki grubun da sesli okuma ve boşluk doldurarak okuma testleri arasındaki ilişki incelenmiştir. Her iki grupta da anlamlı bir fark bulunamamıştır.

İkinci araştırma sorusunun ikinci alt sorusu, tek ünlü harf içeren sözcüklerle iki ünlü harf içeren sözcüklerin telaffuzlarının her iki grup içinde de karşılaştırılmasıyla cevaplanmıştır. İleri seviye öğrenciler için anlamlı bir bağıntı bulunmuş, iki ünlü

içeren sözcükleri daha iyi telaffuz ettikleri ortaya çıkmıştır. Orta altı seviye öğrenciler ile ilgili önemli bir ilişkiye rastlanmamıştır.

İkinci araştırma sorusunun üçüncü alt sorusunu cevaplamak için, her iki grubun da "w" harfi içeren sözcükleri telaffuzları, sesli okuma ve boşluk doldurarak okuma testleri arasında bir karşılaştırma yapılarak incelenmiştir. İki grupta da iki test arasında anlamlı bir performans farkına rastlanmamıştır.

İkinci araştırma sorusunun son alt sorusunu cevaplamak için sonlarında çift ünlü hece bulunan sözcüklerin her iki grup tarafından telaffuzu sesli okuma ve boşluk doldurarak okuma testleri arasında karşılaştırma yapılarak analiz edilmiştir. Orta altı seviye öğrencilerde sonuçlar istisna olmaksızın hatalı ama anlaşılır telaffuz kategorisinde olduğu için istatistiksel bir analiz yapılamamıştır. İleri seviye grupta ise anlamlı bir ilişkiye rastlanmamıştır.

Araştırma sorusu 3 ve sonuçları

Öğrencilerin sesli okuma (read-aloud) testi performansı ile sözcük telaffuzu (word pronunciation) testi performansı arasında anlamlı bir fark var mı?

Öğrencilerin karma ünlü seslerin telaffuzuyla ilgili farkındalığını ölçmek amacıyla sesli okuma ve sözcük telaffuzu testlerindeki performansları her iki grup içinde bağımsız olarak karşılaştırılmıştır. İleri seviye grupta önemli bir bağıntıya rastlanmazken, orta altı seviye öğrencilerin sözcük telaffuz testinde anlamlı bir fark oluşturacak kadar seviyede daha iyi bir performans sergiledikleri görülmüştür.

5. SONUÇLARIN TARTIŞILMASI

Özetin bu bölümünde istatistiksel analiz sonuçları yorumlanacaktır. Her araştırma sorusundan elde edilen sonuçlar ayrı ayrı incelenip tartışılacaktır.

5.1 Orta altı ve ileri seviye grupların karşılaştırılması

Tüm telaffuz kayıtları bir arada değerlendirilip orta altı ve ileri seviye gruplar karşılaştırıldığında, iki grup arasında anlamlı bir fark bulunmuştur. İleri seviye öğrencilerin karma ünlüleri telaffuz konusunda daha başarılı oldukları görülmüştür. Buradan, genel yeterlilik seviyesinin öğrencilerin bu sesleri telaffuzuyla doğrudan ilişkisi olduğu sonucuna ulaşılabilir. Orta altı ve ileri seviye öğrencilerin telaffuzları değerlendirildiğinde, orta altı grubun yanlış telaffuzlarının ileri seviye gruptan genel olarak daha fazla olduğu, kusursuz telaffuzlarının ise kayda değer bir biçimde ileri seviye gruptan daha az olduğu görülmüştür. Yeterlilik seviyesi arttıkça, öğrencilerin telaffuzlarının da daha anlaşılır olmaya başladığı sonucuna ulaşmak mümkündür.

5.2 Ortografinin telaffuz üzerindeki etkisi

Orta altı seviye öğrencilerin sesli okuma ve boşluk doldurarak okuma testleri performansları arasında anlamlı bir fark olmadığı sonucuna ulaşılmıştır. Bazı telaffuz patternlerinin farklı durumlarda dahi değişmediği sonucuna varabiliriz. Oluşturulan ortam ve şartlar ne olursa olsun, aynı ya da benzer telaffuz şekilleri duymak mümkün olmuştur. Aynı duruma ileri seviye grupta da rastlanmıştır. İstatistiksel olarak anlamlı farklara ulaşılmamış olsa da, her iki grubun da sözcüklerin yazılı formlarına maruz kalmadıkları zaman, daha az yanlış telaffuz ve daha çok kusursuz telaffuz ürettikleri ortaya çıkmıştır. Ayrıca, öğrencilerin sözcüklerin yazılı formlarını görmemelerinin kendilerini ortografinin etkisinden tamamen kurtardığını iddia etmek de fazla iyimser bir tutum olacaktır. Öğrencilerin sözcükleri okurken ve boşlukları doldururken yaşayabilecekleri bilişsel süreçleri de göz önünde bulundurmak gerekir. Sözcüklerin baş harflerinin ipucu olarak öğrencilere sunulması da bu noktada başka bir tetikleyici etken olabilir. Ancak yine de, sözcüklerin yazılı hallerini görmediklerinde daha az

yanlış ve daha çok kusursuz telaffuz üretilmiş olması, ortografinin telaffuz üzerindeki etkisini gösteriyor olabilir.

5.2.1 Ortografik kategoriler

Tek sesli harfli ve çift sesli harfli sözcüklerin telaffuzları karşılaştırıldığında, iki grupta da anlamlı bir fark bulunmuştur. Her iki grubun da, çift sesli harfli sözcüklerde oldukça fazla sayıda kusursuz telaffuz ürettikleri görülmüştür. Aksine, tek sesli harf içeren sözcüklerin telaffuzunda bu sayılar düşmüş, hatalı ama anlaşılır telaffuzların sayısı artmıştır. Bu noktada tek sesli harften oluşan karma ünlülerin telaffuzunun Türk öğrenciler için zorluk teşkil ettiği sonucuna varabiliriz. Türkçe'de bir tane sesli harf, bir ünlü sese tekabül edeceğinden, İngilizce'de de aynı stratejiyi uygulayan öğrencilerin, benzer bir şekilde, çift sesli harfli sözcüklerin telaffuzunda da kolaylık yaşadığını görüyoruz. Ortografinin yardımcı ya da engelleyici bir faktör olabileceği hipotezinin destekler nitelikte sonuçlar elde edildiğini söyleyebiliriz.

"w" sözcüklerinin telaffuzunda orta altı grupta da ileri seviye grupta da anlamlı bir fark bulunamamıştır. Buradan şöyle bir sonuç çıkarılabilir: Bazı telaffuz desenleri öğrencilerde yerleşmiş ve dolayısıyla her durumda aynı şekilde kalıyor olabilir. Türkçe'de var olan /v/ sesinin bu bölümde sıklıkla "w" harfinin telaffuzu olarak görüldüğü gözlemlenmiştir. Bunun sebebi hem ortografi hem de fonoloji olabilir.

Sonunda karma ünlü bulunan sözcüklerin telaffuzunda ileri seviye grupta anlamlı bir sonuç bulunmazken orta altı seviye grubun sonuçları istatistiksel olarak analiz edilememişti. Bu kategoride elde edilen sonuçları da yerleşmiş hatalar grubuna sokmak mümkün olabilir. Aynı şekilde, yazılı formları görmeseler de aynı telaffuz desenlerini üretmeleri, çift ünlü hece yerine tek ünlü üretmeleri, yerleşmiş hatalara ya da ortografik etkinin zihinde hala sürüyor oluşuna bağlanabilir.

5.3 Öğrencilerin karma ünlüler konusundaki farkındalığı

Öğrencilerin sesli okuma ve sözcük telaffuz testleri performansları arasındaki farka bakıldığında, ileri seviyede anlamlı bir fark bulunmazken, orta altı seviyede anlamlı bir farka ulaşılmıştır. Bu noktada, ileri seviye öğrencilerin telaffuzlarının, bu konuda test edildiklerini bilmemelerine rağmen, belli bir seviyede olduğuna işaret ediyor olabilir. Ancak yine de telaffuz testinde daha fazla kusursuz telaffuz ürettiklerini görmek mümkün olmuştur. Orta altı seviye öğrencilerdeyse anlamlı bir fark bulunmuştur. Telaffuz testinde çok daha iyi sonuçlar veren orta altı seviye grup için, cğmleleri sesli okurken sözcüklerin ve seslerin kendi içlerindeki telaffuzlarına yeterince odaklanamayabildikleri sonucunu çıkarabiliriz. Ancak telaffuz testinde sözcükleri teker teker telaffuz ederkenki dikkat ve konsantrasyon artışı sayesinde, ileri seviye kadar olmasa da anlamlı bir fark oluşturacak seviyede daha başarılı olmuşlardır.

6. ÇALIŞMANIN SINIRLILIKLARI VE GELECEK ÇALIŞMALAR İÇİN ÖNERİLER

Bu çalışmada yer alan öğrencilerin hepsi aynı üniversitenin hazırlık okulundan katılım sağlamışlardır. Katılımcıları çeşitlendirmek, sonuçları genelleyebilmek anlamında kolaylık sağlayacağından gelecekteki çalışmalarda farklı okullardan öğrencilerle çalışılabilir.

Üç farklı test ortamında da aynı katılımcıların performansları test edilmiştir. Katılımcıların bu noktada, her ne kadar testler birer hafta arayla uygulanmış olsa da, sözcüklere ve seslere karşı bir alışkanlık meydana gelmiş olabilir. Farklı katılımcılarla çalışmak farklı sonuçlar verebilir.

Çalışmada, ana dili İngilizce olan iki Amerikalı İngilizce öğretmeni, öğrencilerin telaffuzlarını kulaklıklar kullanarak dinleyerek değerlendirmiştir. Gelecekteki

çalışmalarda daha ayrıntılı ve teknik sonuçlar için, teknolojiden faydalanılabilir, Praat ve benzeri yazılımlar kullanılarak artikülasyon sırasında meydana gelen değişimler gözlemlenerek daha teknik sonuçlara ulaşılabilir.

J. TEZ FOTOKOPİSİ İZİN FORMU

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Adı : Necmettin Anıl
Bölümü : İngiliz dili Öğretimi / English Language Teaching

TEZİN ADI (İngilizce) : TURKISH UNIVERSITY LEVEL EFL LEARNERS' PRONUNCIATION OF THE DIPHTHONGS AND TRIPHTHONGS IN ENGLISH

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