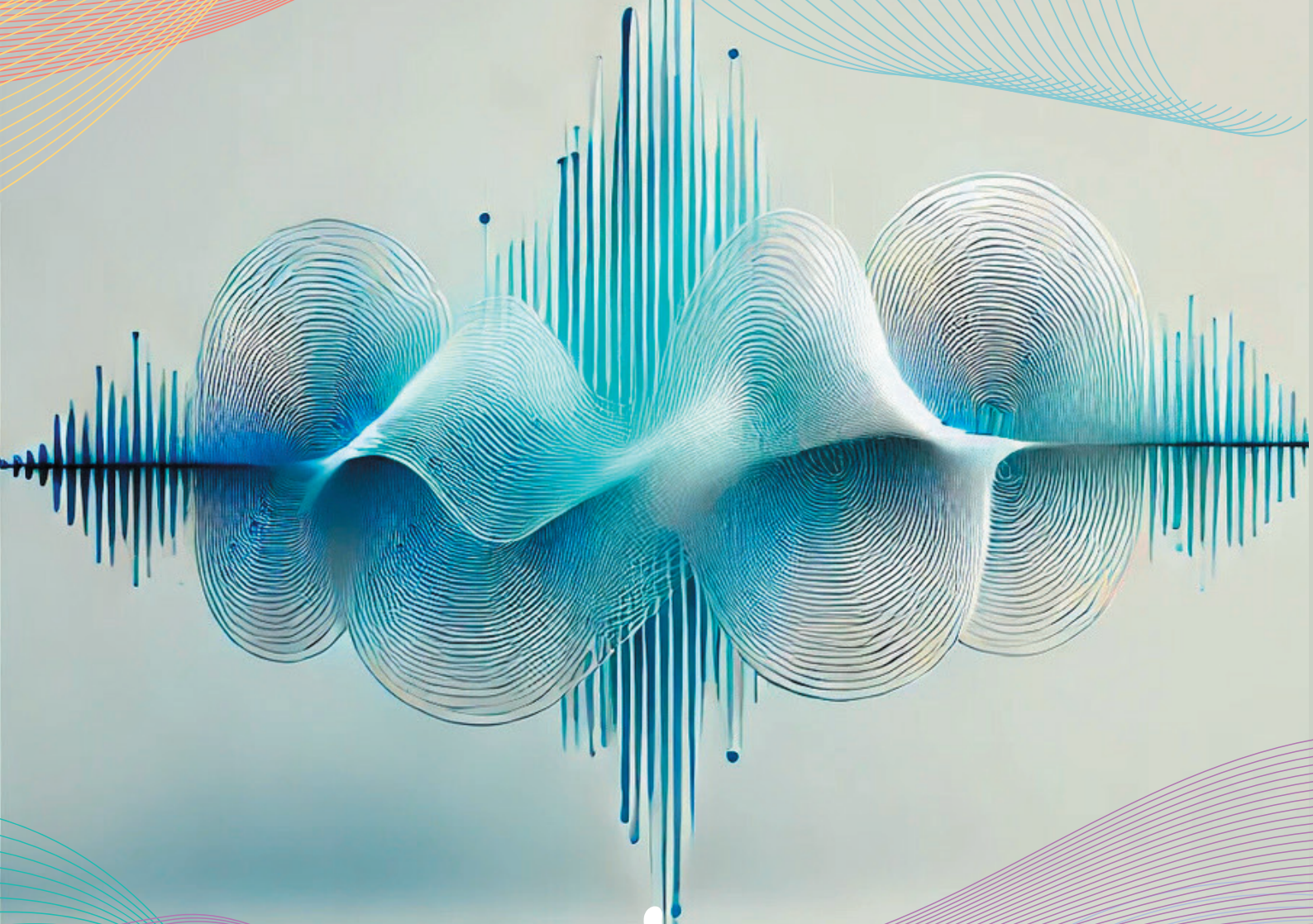
Duygu EVİS

Lexical Stress of Indo-European Loan Words



This book is based on writer's MA thesis.

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Duygu EVİS

Editor: Asst. Prof. Dr. Vildan İNCİ KAVAK

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Kitabın Adı : LEXICAL STRESS OF INDO-EUROPEAN LOAN WORDS
Editör : Asst. Prof. Dr. Vildan İNCİ KAVAK
Yazar : Duygu EVİS

1. Baskı : Aralık 2024 ANKARA

Yayın Koordinatörü : Ceyda ŞEREFLİOĞLU
Yayın Yönetmeni : Selva ALİM
ISBN : 978-625-5537-73-7
Yayın No : 2784

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CURRICULUM VITAE

Duygu EVİS is a PhD candidate teaching English in the School of Foreign Languages at Gaziantep Islam Science and Technology University in Türkiye. She received her BA and MA degrees in English Language Teaching (ELT) from Gaziantep University and is prepared to complete her thesis at Çukurova University, Türkiye. Her research interests include applied linguistics, corpus linguistics, conversation analysis, language acquisition, teacher professional development, and teaching English as a foreign/second language.

PREFACE

Language shapes the way we perceive and engage with the world around us. Among the myriad complexities of language, pronunciation—and specifically lexical stress—plays a crucial role in facilitating clear communication. This book, *" Lexical Stress of Indo-European Loan Words,"* emerges from my deep fascination with phonetics and my journey as a researcher in applied linguistics.

Based on my master's thesis, this book delves into the intricate relationship between stress patterns and communication effectiveness among Turkish speakers of English. With loanwords forming a significant part of modern vocabulary, understanding their stress patterns becomes imperative for educators, learners, and linguists alike.

The pages ahead encapsulate extensive research involving native and non-native speakers, a rigorous experimental design, and a blend of acoustic and statistical analyses. The findings not only contribute to the scholarly discourse on lexical stress but also offer practical insights for enhancing English language teaching practices.

I extend my heartfelt gratitude to my mentors, colleagues, and participants who made this research possible. Their encouragement and collaboration have been invaluable. It is my hope that this book inspires further exploration into the nuanced world of phonetics and supports educators and learners in achieving more effective communication.

Sincerely,
Duygu Evis

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LIST OF ABBREVIATIONS

CG: Control Group

CLT: Communicative Language Teaching

CPH: Critical Period Hypothesis **EFL:** English as Foreign Language **ELF:** English as Lingua Franca **ELT**: English Language Teaching **ESL:** English as Second Language

IPA: The International Phonetic Alphabet

L1: First Language

L2: Second Language

MEPT: The Michigan English Placement Test

NG: Native Group

NNS: Nonnative Speakers

NS: Native Speakers

SPSS: Statistical Package for Social Sciences

TG: Treatment Group

UNDERSTANDING STRESS IN LANGUAGE

It is accepted that the number of non-native English speakers is growing daily and outnumbering that of native English speakers. Effective learning and teaching of English as a foreign or second language is still an important issue of concern for learners, educators, and scholars. Although the phenomenon has changed from perfectly used native-like language to "legitimate discourse" of Bourdieu (1997) throughout the late 20th century and later to term English as a Lingua Franca (ELF), pronunciation still maintains its importance for intelligible discourse. According to Bourdieu (1977), 'legitimate' pronunciation is associated with being intelligible and acceptable to the target language. Since pronunciation is one of the vital components of establishing successful communication in a foreign language, independent of a rich lexicon, without proper pronunciation, which also covers using accurate stress patterns, communication may stumble due to misunderstandings (Varol, 2012). It is highly recommended that teachers encourage their students to use understandable oral production during a conversation rather than native-like speech (Celce-Murcia, Brinton, & Goodwin, 1996; Kenworthy, 1987; Tench, 1981). As the intelligibility and comprehensibility of speech also depend on pronunciation, the demand for second/foreign language speakers to learn proper pronunciation is growing daily. Besides, most of the learners consider that having a native-like pronunciation is an indicator of their language proficiency.

The pronunciation was ignored by educators until the audio-lingual method emphasized listening and speaking. Derwing and Munro (2005) explain one of the reasons why pronunciation instruction was missing in the language classes were considering the study of pronunciation as a field of applied linguistics. Most of the findings on this issue have been reported by linguists rather than language educators. Communicative Language Teaching (CLT) has strongly changed the emphasis to communicatively using suprasegmental and pronunciation teaching. As Richards and Rodgers (2001) suggest, CLT aims to use language features as effectively and appropriately as possible. It underlines that in foreign language classrooms, speech should be more communicative, intelligible and comprehensible (Derwing & Munro, 2009). According to Celce-Murcia, Brinton, and Goodwin (2010), CLT mainly focuses

on intelligibility and comprehensibility of language used, closely related to communicative skills rather than full correctness and native-like speech. Improving learners' communicative competence is the main goal of the communicative approach.

According to Hammarberg (1988), acquiring the pronunciation of the target language includes different features such as age, quality and quantity of input, and the amount of language used. Scovel (1988) and Lenneberg (1967) attribute the privileged position of pronunciation to the loss of acquisition skills with age. The research which explains the critical period hypothesis effect on pronunciation shows that young Korean learners of English had more accurate pronunciation than Korean adults (Baker, Trofimovich, Flege, Mack & Halter, 2008). The supporting results about age effect on pronunciation were also found in many studies (Flege, Birdsong, Bialystok, Mack, Sung, & Tsukada, 2006; Aoyama, Flege, Guion, Akahane-Yamada & Yamada, 2004; Flege, Schirru, & MacKay, 2003; Jia & Aaronson, 2003; Flege & Liu, 2001; Elliott, 1995). Following the studies mentioned, late learners or adults, even if they can acquire the rules of language in every area, still have a foreign accent closely related to the prosodic features of the language, which directly require physical input and output. Therefore, age is considered an element that can affect non-native speakers' stress placement in the present study. Additionally, within the framework of contrastive analysis, it is suggested that errors in pronunciation made by non-native speakers of English are likely to increase due to the existence of corresponding sounds in non-native speakers' first language (Oller & Ziahosseiny, 1970).

In the past few decades, suprasegmental features in pronunciation have attracted more and more researchers' attention and loanwords stress is a relatively intact area for scholars. During the acquisition of suprasegmental features such as stress, pitch, and tone, properties of native language affect target language features. Oller and Ziahosseiny (1970) proposed that as the similarity between the two languages increases, it creates difficulty for learners. In pronunciation, acquiring suprasegmental features such as stress patterns is one of the challenging areas for non-natives. Eckman, Elreyes, and Iverson (2003) also conclude supporting results suggesting that the less different L2 sound system, the more trouble in producing for the learner. Essentially, stress is a vital component of pronunciation and the Oxford Dictionary (2019) defines it as the emphasis given to a particular phonological element to single it out within other elements in speech, specifically via a blend of relatively greater loudness, higher pitch, and longer

duration. Cutler (1983) accentuates the importance of word stress by pointing out that misplaced stress, aside from ungrammatical sentences and inaccurate articulation of the sounds, can also cause breakdowns in communication. It is shown that native listeners need longer processing time to understand misplaced word stress, and as a result, they miss some part of the message to decode the wrongly stressed word (Cutler & Clifton, 1984). Regarding this, Benrabah (1997) found that native speakers focus on word stress patterns to determine the mis-stressed words instead of listening to the segments, which causes breakdowns in communication. It is concluded that learners should concentrate on word stress rather than correctly pronounced sounds or fully correct segments.

When loanword phonology is considered, the adaptation to stress is not straightforward. Using the L2 words with minimal phonological differences poses a challenge for learners to switch between the stress patterns of two languages. This situation makes stress teaching a debatable issue as well. Jenkins (2002) claims that word stress is not teachable due to its complexity and does not affect the intelligibility of the utterance. On the contrary, empirical studies argue that in English, there are a limited number of rules that can be applied to polysyllabic words (Dauer, 2005) and "nearly every word in English can be assigned stress by using one of four simple rules" (Dickerson, 1994, p. 25).

The studies mentioned above show that lexical stress in loanwords is a fertile research area. The studies in this area mostly deal with detecting the differences or similarities in donor and borrowed languages (Aktaş, 2015; Arslan, 2013; Fenyvesi & Zsigri, 2006; Kang, 2010; Varol, 2012). However, to the best of our knowledge, no study is concerned with both lexical stress differences on loanwords between native and non-native speakers of English and also eliminating these differences in stress patterns in the context of Türkiye, which is a huge gap in the literature. The present study is in the field of English Language Teaching (ELT), where the results can be implemented in teaching English. This study has two phases. The first one describes the difference between the loanword stress patterns of native and non-native English speakers. Secondly, it tries to find out whether it is possible to teach native speakers lexical stress norms to English as Foreign Language (EFL) learners. For that reason, this research has an experimental design.

The main aim of the current study is to describe stress patterns of loanwords in native and non-native speakers' read speech. Suppose a difference concerning primary stress patterns is observed between native and non-native read speech. In that case, the study will analyse whether a treatment can eliminate this difference. This will be done by providing the non-native group with an experimental intervention designed to increase participants' awareness of stress placement patterns, while the native group provides the norms of the loanword stress placement.

For this purpose, this study will address the following research questions:

1. Is there any significant difference in primary stress placement of the selected loanwords between native speakers and Turkish speakers of English?
2. If there are any differences, to what extent does a treatment on stress patterns of English eliminate these differences?
3. Do loanwords' lexical stress patterns change if uttered in isolation or in-sentence?

The present study investigates the lexical stress in English pronunciation of Indo-European words loaned to Turkish by Turkish speakers of English. Moreover, the differences in lexical stress patterns loanwords between native and non-native EFL learners in Türkiye and how to eliminate these differences will be investigated in this study.

To begin with, the literature on the studies on lexical stress of loanwords by Turkish speakers of English in the context of ELT is very narrow. However, there have been some studies related to stress patterns of loanwords (Dresher, 2013; Fenyvesi & Zsigri, 2006; Hişmanoğlu, 2012; Kang, 2010; Lee, 2017; Pierre, 2018), but no studies with a parallel purpose of this research were encountered in the Turkish context. Therefore, this study aims to fill the gap in this field in the Turkish context. Lord (2005) found that Spanish learners improved their pronunciation with the provided treatment. In her study, seventeen students enrolled received explicit phonetic instruction as a treatment; according to the findings, it is concluded that native English speakers learning Spanish have improved their pronunciation after the training. On the other hand, two studies including Dutch learners of English (Bongaerts, Bongaerts, Planken, & Schils, 1995; van Summeren, Planken, & Schils, 1997) also concluded similar results with Lord's (2005). Sezer (1983) and Kabak and Vogel (2001) studied Turkish stress

patterns. Also, in the Turkish ELT context, Hişmanoğlu (2012) studied 30 EFL learners to discover the problem causing word stress patterns for learners and eliminate these problems through internet-based video lessons. He concluded that the students taught through Internet-based video lessons performed better than those subjected to the traditional pronunciation lessons in terms of improving their pronunciation of the primary stress in English words. Varol (2012) found that Turkish learners of English participating in the study had some level of transfer from their native language to the target language regarding the lexical stress of the loanwords.

More importantly, there are currently very limited studies in the literature regarding the difference in loanword lexical stress between native and non-native speakers of English in terms of eliminating such a difference through treatment. There is a need for more practical findings in order to use them in further ELT experiences. Therefore, this study aims to expand the existing literature on foreign language learners' pronunciation acquisition. The findings of this study might have indications for both material development and language teaching. The results can serve as a tool for language teachers to better understand their students' needs and also to develop materials or techniques accordingly.

Parallel with the purpose of this study, the following assumptions were made:

1. The differences in the participants' educational background, socio-economic status, and gender will have no effect on lexical stress patterns.
2. The number of group participants is assumed to be adequate.
3. The anxiety-provoking external factors were eliminated while recording the test material.

The present study has two limitations. The first limitation is that it was not able to reach more students from different levels of education. This study was conducted with students of the English Language Teaching Department at Gaziantep University. In order to reach more generalizable results, what they would read instead.

1.1. Definitions of Key Words

Loanword: A loanword, also called "borrowed word" or "borrowings" is a word transferred from one donor language with little or no adjustment (Juliawan, 2017).

Stress: "…an articulatory term of description, is also known as accent, is the embodiment of the accumulation of energy imposed upon a sound on a sound group in the process of speech" (Demirezen, 1986, p. 108).

Lexical stress: Lexical stress, also called "word stress," means emphasizing a particular syllable within others through relatively longer duration, higher pitch, and greater loudness in a single word (Hişmanoğlu, 2012).

Prosodic features: "the systematic organisation of various linguistic units into an utterance or a coherent group of utterances in the process of speech production" (Fujisaki, 1997, p. 28)

THEORIES AND PRINCIPLES OF STRESS

2.1.Suprasegmental Features of English

In this chapter, the review of the literature related to the subject matter of this study is presented. It covers the theoretical background behind it while providing a summary of the studies concerning this topic. First, the suprasegmental features of English will be briefly explained, then lexical stress patterns of the two languages will be elaborated. This is followed by a cross-linguistic comparison for lexical stress. In the end, the age effect on acquiring these patterns will be discussed.

Language is a system of sounds to communicate. Spoken language which is a medium of communication consists of segmental and suprasegmental features. Segmental features are usually associated with phonemic inventory and allophonic features, while suprasegmental features are related to syllabification, prominence, toning, and intonation. According to Clark, Yallop and Fletcher (2007), suprasegmental features are also defined as prosodic or nonsegmental features. Longman Dictionary of Applied Linguistic (Richards, Platt & Weber, 1985) defines suprasegmentals as units that extend over more than one sound in an utterance such as stress and intonation. Suprasegmentals can also be described as vocal effects which cover more than one sound segment in an utterance, such as a pitch, stress or juncture pattern (Crystal, 2003). They are superimposed on syllables and segmental features. Variations in intonation, rhythm and stress are the main suprasegmental units. As Celce-Murcia, Brinton and Goodwin (1996) suggest, with the help of correctly used suprasegmental features such as stress, intonation and rhythm, one can understand the group of sounds as meaningful words and sentences. These units have major impacts on determining the meaning of uttered words by the speaker.

Teaching prosodic features has been overlooked in classrooms for decades and has gained its popularity with Communicative Approach. Brown (1995, p.174) clearly remarks the importance of prosody teaching in EFL classrooms by concluding that “minimal pairs should not be overemphasized at the expense of other aspects of pronunciation, such as stress, rhythm, intonation, and voice quality.” Similarly, Roach (2009, p. 6) underlines that “pronunciation exercises can be difficult, of course, but if

we eliminate everything difficult from language teaching and learning, we may end up doing very little beyond getting students to play simple communication games." Successful use of intonation, rhythm, and word and sentence stress creates comfortable intelligibility (Cruttenden, 2001; Celce-Murcia, Brinton & Goodwin, 1996), while a successful use of segmental features and sentence stress causes mutual intelligibility (Jenkins, 2000b). Therefore, while teaching segmental and suprasegmental features should be taken into consideration. Concordantly, Abdullah (2016) suggests that while teaching English, segmental and suprasegmental features should be addressed equally in order to reach understandability which is one of the main goals of teaching English pronunciation.

2.1.1. Intonation and Tone:

Intonation is defined by Ranalli (2002) as movements or pitch differences to which familiar labels describing levels e.g. high or low tones i.e. falling or rising are attached. By all means, the high and low or the falling and rising tones can be quick or slow, and so, can be combined together in many combinations such as fall-rise- fall, rise-fall-rise, etc. (Al-Sibai, 2004). As Kurt, Medlin, and Tessarolo (2014) explain, meaning is conveyed through lexical preferences as well as intonation. Proper intonation allows mutual understanding in communication (Valenzuela, 2013). Additionally, Mennen (2007) underlines that intonation is useful for organizing discourse and conveying linguistic information. Intonation patterns define how a sentence expresses the message or differentiates emphasis of the conversation. Intonation forms the meaning of the whole utterance rather than changing the meaning of lexical items (Lehiste, 1976). Roach (2010) defines four functions of intonation as follows:

1. ***Attitudinal Function*** is used for expressing attitudes or emotions.
2. ***Accentual Function*** which is also called *focusing* or *informational function* is to emphasize the new information in an utterance by assigning appropriate stress to words or syllables.
3. ***Grammatical Function*** helps recognize grammatical or syntactic structures in spoken language. For example, intonation is used to distinguish clause types that could be questions or statements.
4. ***Discourse Function*** enables to show whether or not the speaker ends talking or keeps talking or is ready to give another speaker a turn. It functions as a paragraph in written language. (pp. 164-178)

These functions give some advantages to both the speaker and the listener. First of all, it defines the high and low which are arbitrary choices for two ends of the pitch scale. Secondly, it gives the hearer an auditory sensation experience. Lastly, the speaker has control over his/her own voice, and intonation gives the speaker the possibility of choice. With intonation, a speaker could show that he/she is asking for information or seeking confirmation, agreement or simply making a remark. This makes intonation very important for intelligibility as it expresses intentions (Jenkins, 2004). Previous research on English pronunciation made by Zhang (2004) with the aim of increasing students' consciousness about the significance of intonation while their instructors teach them English, demonstrated that learners' responses in learning properties of English pronunciation like intonation were very grave and essential in order to comprehend the meaning in social interaction.

Tone can be defined as the most significant pitch change, such as rise or fall, etc., at the end of the sentence (Zulfugarova, 2018). In most languages, pitch refers to intonation, but only in some languages it indicates tone (Yurtbaşı, 2013). Register tone is related to high, low or mid-pitch. Contour tones, which refer to rising or falling pitch swift, are used by tone languages, the best known of which is Mandarin Chinese. In tone languages, a rising or falling tone causes a total change in the meaning of the word, for example, the word "ma" in Mandarin Chinese has two different meanings when uttered with a falling tone or a rising tone (Duanmu, 2004):

Uttered:	Falling Tone	Rising Tone
Word:	ma	ma
Meaning:	"to scold"	"hemp"

2.1.2. Rhythm:

"Word and sentence stress combine to create the rhythm of an English utterance – that is, the regular, patterned beat of stressed and unstressed syllables and pauses" (Celce-Murcia, Brinton & Goodwin, 1996, p. 152). Since English is a stress-timed language, the speech flows in rhythmic beats from stress to stress, neglecting the unstressed syllables (Celce-Murcia, Brinton & Goodwin, 1996). Todaka (1990) suggests that accurate intonation and rhythm are interlinked; one's intonation does not sound accurate without proper usage of rhythm. To explain the importance of studying rhythm in speech, it is important to emphasise that a language's rhythm is one of its

most fundamental features. These features are acquired at younger ages and are hard to obtain when trying to learn as an adult. It is also difficult for learners to change or modify this rhythm when learning to pronounce a foreign language. Rhythm is a feature that results in people having accents.

The English language has a very characteristic rhythm, and native listeners expect speakers to use this rhythm to maintain healthy communication. Therefore, it is crucial for English learners to use this rhythm. If the speaker does not use this rhythm, the listener will become unbalanced and have trouble understanding the speaker (Jenkins, 2004).

2.1.3. Stress

Stress is the significant degree of emphasis given to a syllable or a word to distinguish it from others in an utterance (Zapata, 2009). Edwards (2003) states that stress has a high effect on the meaning of spoken words. There are two main types of stress: word stress and sentence stress. Word stress, also called lexical stress, refers to the syllable emphasized more than other syllables in a word, while sentence stress deals with the emphasized word in an utterance. Stress is found in words with more than one syllable, compound words, phrasal words, clauses, and sentences. When it takes place in a word, it refers to phonetics. On the other hand, stress in phrases, clauses and sentences is related to syntactic phonology.

Word stress also gives clues about the word's part of speech and alter the meaning of the word. A very common example can be given as follows:

"*We're going to record a record.*

As it can be seen from the example above, the word record can be differentiated through the lexical stress in spontaneous communication. The verb "record" has the stress on the second syllable while the noun "record" carries stress in the first syllable.

Stress pattern of a word is very important for native speakers because they usually rely very much on the stress pattern of words when they are listeners. Experiments have shown that when native speakers mishear a word, it is because a foreigner had put the stress on the wrong part of the word and not because he/she mispronounced it (Kenworthy, 1987).

Haycraft (1971, p. 10) emphasizes that "a wrong stress may confuse or alter the meaning of a sentence, the wrong intonation will convey the wrong mood or attitude, and given the wrong stress and wrong intonation, a sentence may appear incomprehensible or misleading though the individual sounds and grammatical structure are perfect."

2.1.3.1. Sentential Stress

Sentential stress can be defined as what gives a sentence its true meaning. If the sentential stress is appropriate in any given sentence, it improves intelligibility and comprehension. It is possible to hear a sentence as a question or a statement. For example, one can say "She is coming tomorrow." as a statement or "She is coming tomorrow?" as a question. The intonation is what makes these two utterances different. They sound different even if they are pronounced the same. When stress falls at the end of a sentence, it makes it a statement. However, to ask a question, the pitch level should rise at the end of the sentence. According to Cruttenden (1986), sentence stress has three main elements. The first one is *intonation units*, parts of a stream of speech. *Tonic status* is a stressed syllable of an important word. The last one is *tones of intonation units* which are used to emphasize a certain information unit.

The uses of sentence stress can be categorized into six: Informational, grammatical, illocutional, attitudinal, textual and indexical (Yurtbaşı, 2013).

1. ***Informational:*** this is used for giving new information, i.e. the word or clause which includes the new or requested information. For example: "What did you do yesterday?" "I ↘ met with my friends.", "Who did you meet?" "I meet with ↘ my friends."
2. ***Grammatical:*** As stated above, a rising pitch can turn a statement into yes/no questions.
3. ***Illocutional:*** Sentence stress used with an aim to signal the intention of speaker such as suggestion, asking question or warning.
4. ***Attitudinal:*** Different pitch levels indicate different attitudes or moods of the speaker.
5. ***Textual:*** The pitch signals whether the speaker finishes expressing his thoughts or will continue speaking.
6. ***Indexical:*** Different intonation tones are used for indicating expressions whose semantic value depends on the context.

Even in our native languages, we usually do not even realise how much or how often we use different intonations in daily speech. However, when a speaker uses an unusual stress pattern, we realise problems or difficulties in comprehending and maintaining communication. The same problem arises in language learning classes as well. Unfortunately, it may end up with fossilised errors or high speaking anxiety. As Demirezen (1986) suggests, sentence stress is related chiefly to intonation. Therefore, it is important to apply awareness-raising activities on suprasegmental features in language classes.

2.1.3.2. Lexical Stress in English

A syllable is defined as a unit or speech consisting minimally or one vowel and maximally or a vowel preceded by a consonant or consonant cluster and followed by a consonant or consonant cluster (Richards & Schmidt, 2002). A member of the Indo-European language family, English is a lexical stress language, which means not all the syllables in a word have the same emphasis; some differ in their relative salience. Trask (1996) defines stress as a certain type of prominence which, in some languages, is present upon certain syllables and states that native speakers generally have the ability to locate the syllables that have stress. Being a stress-timed language, English requires to have the stressed syllables occurring at equal time intervals also called Stress-Timed Rhythm. A stressed syllable can be identified with the examination of its duration while pronouncing, its pitch, and its volume. Thus, a stressed syllable is pronounced longer in duration, higher in pitch and louder in volume. In English language, all words, except for function words, include one syllable that has stress which can be distinguished as being more prominent than the others (Fromkin, Rodman & Hyams, 2002). Labeling the syllable as stressed or unstressed would not be fully correct since English speakers use an intermediate stress level as well. There are two types of stress in English, primary and secondary stress. As the name suggests, if a syllable is prominent due to stress, it is called primary stress. Secondary stress, on the other hand, is the stressed syllable which is weaker than the primary stressed syllable but stronger than all the other syllables (Cutler, 2015). Primary stress is shown with a vertical stroke [ˈ] above and in front of the syllable while secondary stress can be marked with a vertical stroke [ˌ] below and in front of the syllable in the International Phonetic Alphabet (IPA). For example, the word “anthropology” consists of five syllables and not every one of them is pronounced the same in terms of emphasis. Among these five syllables, each one differs in stress levels as shown below:

anthropology /ˌæn.θrəˈpɒl.ə.dʒi/

As it can be understood from the above, the first syllable which is /æn-/ has the secondary stress while the third one /-pɒl-/ is the primary stressed syllable, which means it can be heard more clearly than the others.

Determining the placement of stress within a word has always been a concern for scholars. As Roach (2012) suggests English is not one of those languages where word stress placement is fixed or more predictable such as French where the last syllable is generally stressed or Czech where the first syllable tends to be stressed. Therefore, scholars have different perceptions of determining the place of stress. Jenkins (2002) suggests that each word has individual placement so learners should learn it when they study the word, and this complexity also causes the idea of unteachableness of stress. On the contrary, based on some empirical research, many agree that there are some rules which can be applied to nearly every polysyllabic word in English (Dauer, 2005; Dickerson, 1994; Roach, 2012). The following rules do not cover all the aspects of word stress in English and all the rules have exceptions, but they cover the large majority of multisyllabic words in the language. In words with two or more than two syllables, one syllable is strong or stressed while the others are weak or unstressed. If the word is monosyllabic, it has primary stress when read in isolation. Stress can be given to only the vowel sound in the related syllable, not the consonants. Roach (2012, pp. 85-104)) explains the rules as follows:

For disyllabic verbs, if the second syllable has a diphthong or a long vowel or ending with more than one consonant, the second syllable is pronounced stressed. If the first syllable contains a short vowel and/or one consonant, the first syllable is stressed. For example;

receive (v)	/rɪˈsiːv/	control (v)	/kənˈtrəʊl/
assist (v)	/əˈsɪst/	attract (v)	/əˈtrækt/
enter (v)	/ˈen.tər/	open (v)	/ˈəʊ.pən/
envy (v)	/ˈen.vi/	equal (v)	/ˈiː.kwəl/

Two-syllable adjectives have the same patterns as verbs. However, there are exceptions as in “perfect” /ˈpɜː.fekt/ which ends with two consonants but the stress is assigned to the first syllable. Thus:

correct (adj)	/kəˈrekt/	alive (adj)	/əˈlaɪv/
rainy (adj)	/ˈreɪ.ni/	happy (adj)	/ˈhæp.i/

Two-syllable nouns have different placement rule: the stress is generally tends to be on the first syllable if the second one includes a short vowel. If not, the second syllable is stressed as in:

campus (n)	/ˈkæm.pəs/	problem (n)	/ˈprɑː.bləm/
music (n)	/ˈmjuː.zɪk/	trumpet (n)	/ˈtrʌm.pɪt/
balloon (n)	/bəˈluːn/	police (n)	/pəˈliːs/
design (n)	/dɪˈzaɪn/	alarm (n)	/əˈlɑːm/

Other two-syllable words such as prepositions and adverbs generally seem to behave like verbs and adjectives. For an illustration:

between (prep)	/bɪˈtwiːn/	among (prep)	/əˈmʌŋ/
away (adv)	/əˈweɪ/	always (adv)	/ˈɑːl.weɪz/

For three-syllable verbs, if the last syllable contains a short vowel and ends with one consonant, the stress will be on the penultimate syllable (second from the end). If the final one ends with more than one consonant or has a diphthong or a long vowel, the last syllable is stressed. As a sample:

determine (v)	/dɪˈtɜː.mɪn/	encounter (v)	/ɪnˈkaʊn.tər/
entertain (v)	/en.təˈteɪn/	resurrect (v)	/ˌrez.ərˈekt/

It is unstressed if the final syllable in a three-syllable noun includes a short vowel. The middle syllable is stressed if the syllable preceding the last syllable has a long vowel or ends with more than one consonant. If the final and the middle syllables contain a short vowel and end with not more than one consonant, the first syllable becomes stressed as in:

mimosa (n)	/mɪˈməʊ.sə/	potato (n)	/pəˈteɪ.təʊ/
cinema (n)	/ˈsɪn.ə.mə/	gelatin (n)	/ˈdʒel·ət·ən/

The word ending is another indicator of the placement of stress. Stress can be on the penultimate syllable (second from the end) or on the ante-penultimate syllable (third from the end), according to the suffix on the end. Words ending in –ic, -sion, and -tion have stress on the penultimate syllable, such as:

geologic (adj)	/ˌdʒi·əˈlɑdʒ·ɪk/	population (n)	/ˌpɑː.pjəˈleɪ.ʃən/
democratic (adj)	/ˌdem.əˈkræt.ɪk/	television (n)	/ˈtel.ɪ.vɪʒ.ən/

Additionally, words ending in –cy, -ty, -phy, -gy and –al have ante-penultimate syllable stress. For example:

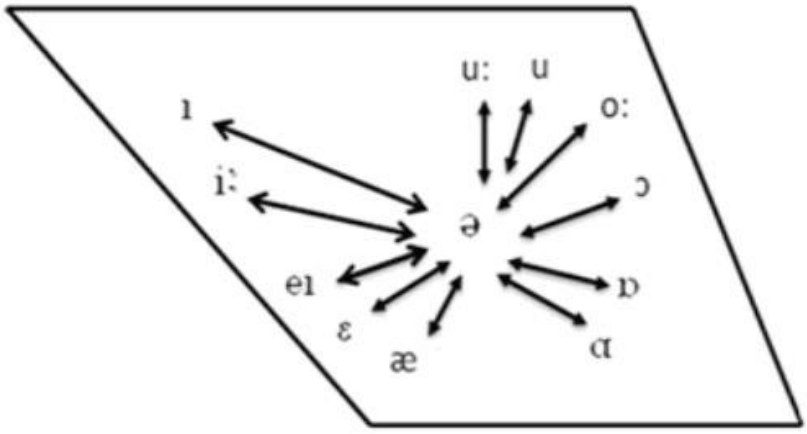
democracy (n)	/dɪˈmɒk.rə.si/	geology (n)	/dʒiˈɒl.ə.dʒi/
photography (n)	/fəˈtɒg.rə.fi/	industrial (adj)	/ɪnˈdʌs.tri.əl/

Compound nouns have stress on the first part while stress in compound verbs and adjectives tend to be placed in the second part. For instance:

blackboard (n)	/ˈblæk.bɔːd/	desktop (n)	/ˈdesk.tɒp/
minibus (n)	/ˈmɪn.i.bʌs/	greenhouse (n)	/ˈgriːn.haʊs/
well-meant (adj)	/ˌwel ˈment/	old-fashioned (adj)	/ˌəʊldˈfæʃ.ənd/
understand (v)	/ˌʌn.dəˈstænd/	overlook (v)	/ˌəʊ.vəˈlʊk/

As discussed above, there is no certain or fixed place for stress in English. Demirezen and Sarıçoban (2008) find that stress mobility is a problematic area for Turkish EFL learners, and they describe it as "when a word is enlarged by the addition of prefixes, word-forming suffixes, inflectional and derivational suffixes" (p. 740). This kind of mobility may end up with changes in stress placement, as explained and exemplified above. As Demirezen (2010a) suggests, as a result of stress mobility, vowels can be reduced into schwa /ə/ phoneme. This situation is also called phonemic decay or vowel reduction, which can be defined as a change in the vowels of a word. When stress mobility occurs in words, a primary stressed syllable loses its priority and becomes a secondary or unstressed syllable. For example, in the word pose /ˈpoʊz/, the vowel /oʊ/ changes into /ə/ when –tion is added to the word. The stress shifts to the second syllable in the affixed-word position /pəˈzɪʃn/. Additionally, the word music /ˈmjuːzɪk/ has stress in the first syllable; when the suffix –ian is added to the word, the stress shifts from the first syllable to the second syllable in the word musician /mjuːˈzɪʃ͡ən/. Nearly all suffixes and prefixes mentioned above cause a vowel in a word to reduce into schwa with bidirectional phonetic movement. Figure 1 indicates the vowel reduction below:

Figure. 1. English vowels that undergo vowel reduction



(Demirezen, 2010c, p. 1570)

Roach (1991) suggests a four-item list which can be used to decide on stress placement in a word. The first one concerns the morphological state of the word, whether it is simple or complex or affixed or compound. The second emphasises the grammatical category of the word. The number of syllables is another factor effective on word stress place. The last item in the list focuses on the phonological structure of the syllables forming the word. Relatively similar to Roach, Skandera and Burleigh (2005) state the three factors affecting the stress placement in a word. One of them is "word origin": There are differences in tendencies of Germanic, defined as the words from Old English and Old Norse, or Romance origins, the words from French and Latin. When we consider the fact that native speakers of English pay more attention to stress patterns than how perfectly sounds are pronounced, raising learners' awareness of stress plays an important role in being a language component.

2.1.3.3. Lexical Stress in Turkish

A member of the Ural-Altaic language family, Turkish is a phonetic language with a regular syllable rhythm. Since Turkish is regarded as a syllable-timed language, every syllable in a Turkish word has approximately equal stress and generally lacks reduced vowels. It is considered that Turkish has a systematic and simple stress assignment rule that primary stress can be found on the final syllable regardless of the length of the word or the number of suffixes (Lees, 1967; Lewis, 1967; Sezer, 1983). Kabak and Vogel (2001) exemplify this rule in their paper as follows:

(1) a. ki**táp** ‘book’

b. kitap**lík** ‘bookcase’

c. kitaplık**lár** ‘bookcases’

d. kitaplıkla**rím** ‘my bookcases’

e. kitaplıkları**míz** ‘our bookcases’

f. kitaplıklarımız**dán** ‘from our bookcases’

As seen above, the stress moves rightwards of the word where the suffixes are added. However, some studies unearth non-final stress patterns in addition to the regular stress rule of Turkish (Hayes, 1995; Inkleas & Orgun, 1998, 2003; Kabak & Vogel, 2001; Sezer, 1983; Van dem Hulst, 1999). Sezer (1983) claims that there is a non-final stress pattern in most of the Turkish borrowed words and proposed a rule, also called the Sezer Stress Rule, accounting for the stress properties of loanwords and place names, claiming that in a non-final stress word, if the penultimate syllable is weak and the antepenultimate syllable is strong, stress will be on the antepenultimate syllable; otherwise, the penultimate syllable is stressed. Sezer (1983) shows the stress patterns of loanwords as follows:

	a. Source Language	**Turkish**
	Éisenhover	Ayzınhóver
	Indianápolis	İndianapólis
	Kénneddy	Kenédi
	Méndelsshon	Mendélson
	Papadópulos	Papadopúlos
	Ptólemy	Pitolémi
	(Paul) Sámuelson	Samuélson
	Wáshington	Vaşíngton
b.	jubilé	jübíle
	visíte	vizíte
	faculté	fakûlte
	atelier	atólye

As discussed above, contrary to general belief, loanwords borrowed from other languages do not bear the stress patterns of the source language. Thus, The Sezer Rule is a useful source to determine the place of the stress in these words. Aktaş (2015) suggests that general rules of lexical stress placement do not cover all the words in the language. He studied 11.351 loanwords in Turkish borrowed from 18 different languages, which are German, French, English, Arabic, Persian, Greek, Bulgarian, Italian, Spanish, Chinese, Japanese, Korean, Armenian, Hungarian, Serbian, Hebrew,

Portuguese and Russian. In his study, it was aimed to find out the stress placement of these loanwords in Turkish and in their native languages according to four parameters: words borrowed without changing the native language's stress pattern, words sharing the same stress properties with Turkish, words which are adapted to Turkish stress pattern, and the words do not carry both original and Turkish stress patterns.

0,6% of the words do not follow any pattern while adapting to Turkish. It is also stated that The Sezer Rule, which accounts for non-final stress placement for loanwords, cannot be applied to some words such as (Aktaş, 2015):

barˈbekü	(barbecue)
firkeˈte	(hairpin)
zarˈgana	(garfish)

It is found that 83,3% of the loanwords in Turkish lost their source language properties and adapted to Turkish stress pattern for example (Aktaş, 2015):

in Turkish	***in Source Language***
diˈzel	ˈdiesel (German)
geneˈtik	geˈnetik (German)
abaˈjur	aˈbat-jour (French)
aboˈne	ˈabonné (French)
aeroˈbik	aeˈ robics (English)
akriˈlik	aˈcrylic (English)
bumeˈrang	ˈ boomerang (English)
broˈkoli	ˈbrocoli (Italian)
oˈpera	ˈopera (Italian)

Aktaş (2015) also suggests that "the number of sounds and syllables, syllable weight, morphemes which bear positive and negative features, word types, meaning and the frequency of word use are the hierarchically organised instruments which determine the place of stress in a word" (p. 135).

2.1.3.4. English and Turkish Lexical Stress Patterns in Contrast

In comparing and contrasting Turkish and English, even though both languages use the Latin alphabet, they differ in almost every area of the language, such as articulation, syntax, phonetics, stress and intonation patterns. The nature of Turkish as a syllable-timed language (Çelik, 2007) and English as a stress-timed language (Harmer, 2001) makes non-native learners of English have some difficulties or neglect stress patterns resulting in misunderstandings or communication breakdowns.

There is one stressed syllable in two or more two-syllable words in English. It is

possible to find three types of stress in a long word: a primary stressed syllable, a secondary stressed syllable and an unstressed one. When the lexical stress patterns in English are considered, Celce-Murcia, Brinton and Goodwin (1996, p. 133) suggest that words originating from Germanic and Latin roots have stress on the first syllable as in 'water /ˈwɔː.tər/' and 'doctor /ˈdɒk.tər/ '. In addition, two-syllabled verbs tend to have primary stress on the second syllable, as in 'attack /əˈtæk/' and 'present /prɪˈzent/'. Suffixation is another feature that determines the placement of stress. Germanic origin prefixes such as a-, be-, for-, fore-, mis-, out-, over-, un-, under-, up-, and with- and Latin origin such as com-, de-, dis-, ex-, en-, in-, ob-, per-, pre-, re-, sub-, and sur- as in 'surprise /səˈpraɪz/' make the root of the word stressed while words with suffixes of German origin such as -en, -er, -ful, - hood, -ing, -ish, -less, -ly, and -ship has the stress on the root as in 'childhood. /ˈtʃaɪld.hʊd/ and with suffixes of French origin such as -aire, -ee, -eer -ese, -esque, - ique,-eur/euse, -oon, -ette, -et, stress tends to be on the final syllable of the word as in 'questionnaire /ˌkwes.tʃəˈneər/' (Celce-Murcia, Brinton & Goodwin 1996, p. 133- 135). As stated before, words ending in –ic, -sion, and -tion have stress on the penultimate syllable; however, words ending in –cy, -ty, -phy, -gy and –al, have antepenultimate syllable stress, as in 'democratic /ˌdem.əˈkræt.ɪk/' and 'democracy /dɪˈmɒk.rə.si/'.

On the other hand, Turkish tends to have primary stress on the final syllable regardless of the number of suffixes and the length of the words. Recent studies have proven that not all words in Turkish have stress on the final syllables. Instead, there is a tendency for non-final stress in many words (Hayes, 1995; Inkleas & Orgun, 1998; Kabak & Vogel, 2001; Sezer, 1983; Van der Hulst, 1999). Although there are different methods to determine the place of non-final stress in Turkish, the Sezer rule accounts for the stress properties of borrowed words and place names. Contrary to the general belief, loanwords in Turkish do not have the stress placement of the source language. This is explained by the Sezer Stress Rule requiring that in a non-final stress word if the strong syllable, which ends with a consonant or a long vowel, is on the antepenultimate and the penultimate syllable is weak, which ends with a short vowel, the antepenultimate syllable is stressed; otherwise the second from the end is stressed.

Accordingly, since Turkish, as a syllable-timed language, has nearly the same pitch, length, and loudness on every syllable, this may create challenges while speaking English, a stress-timed language, in using the correct placement of stress for non-

natives, each syllable receives a different amount of time and stress in English. Lewis (2001) defines the Turkish language as having oxytone words, which have stress on the last syllable, and non-oxytones, which keep stress on the original syllable despite the extension via suffixes. He also makes a nice comparison of the two languages in morphological aspects with emphasis on the agglutination, which is pretty unfamiliar to the speakers of English; he says, "Our English sentences are like drystone walls, with one chunk of meaning dropped into place after another. The Turk's ideas are laid in place like bricks, each cemented to the next" (p. 20). As stressed syllables in English words need to occur at equal time intervals, and each syllable receives a different amount of time and stress, unlike Turkish, non-native speakers of English, whose mother tongue is a syllable-timed language, show a tendency to apply the same amount of stress to every syllable or to implement the exact stress placement as in Turkish when they pronounce the word in English. Besides the absence of the schwa /ə/ sound in Turkish, vowel reduction becomes a problem for Turkish learners of English (Rogerson-Revell, 2011). Furthermore, according to Kabak and Vogel (2001), Turkish learners struggle to learn English because of the differences in stress patterns between the two languages and vowel reduction features in English.

2.2. The Age Factor

It is known that late learners or learners of English as a Foreign Language have a foreign accent (Scovel, 1988; Sanders, Yamada & Neville, 1999). The age factor can be considered as one of the reasons for this accent. In language acquisition, a native-like level of proficiency requires an early age of exposure to the target language (Lenneberg, 1967). It is observed that late learners, such as adults, may learn the features easier; however, they may struggle in native-like use of the target language for the long term, whereas early learners may comprehend the features of the target language permanently and be more successful in that language (Krashen, Long & Scarcella,1979). There are many studies showing a close relationship between the age of exposure to the target language and the language competency achieved in that language (Krashen, Long, & Scarcella, 1982; Major, 2001; Newport, 1990; Patkowski, 1980; Penfield & Roberts, 1959). The critical period hypothesis (CPH) argues that the language acquisition process is in its most efficient time, starting from infancy or very early childhood to puberty (Lenneberg, 1967). With increased age of exposure, humans lose their ability or elasticity to acquire language features including syntactic and prosodic (Burke & Shafto, 2004; 2008).

As a widely accepted phenomenon for language acquisition, second language acquisition becomes more difficult since the brain loses its plasticity of acquisition skills with age. According to Scovel (1988), a critical period significantly affects L2 pronunciation acquisition because the pronunciation is directly physical. Therefore, late learners maintain a foreign accent, indicating their lack of competence in segmental (individual sounds) and suprasegmental (stress, intonation, rhythm) features of the target language. Studies have shown that late learners show deficits in acquiring phonetic information, although they may retrieve information about lexical stress (Sanders, Yamada & Neville, 1999).

The fact that there exists a critical period and it has specific effects on pronunciation has been supported by a considerable amount of studies conducted in this area. For example, according to Patkowski's study in 1990, a strong relationship between the age of first exposure to the target language and pronunciation accuracy has been found. Moreover, the pronunciation skills of the participants who moved to the United States of America (USA) before the age of 15 were more native-like than those who moved to the USA after the age of 15. Similarly, Huang and Jun (2011) researched the effect of age of arrival on the production of L2 prosody for Mandarin-speaking immigrants with different ages of arrival in the US. Their results revealed that age affects different aspects of prosody to varying degrees. They found statistically significant differences in the degree of target prosody, speech rate and frequency of pitch accents. Additionally, Saito (2015) conducted cross-sectional research to examine the spontaneous speech of Japanese learners of English in Canada and concluded that the prosodic (word stress, intonation) and temporal (speech rate) qualities of the participants' speech were significantly predicted by their length of residence.

Taken together, the studies cited above provide fairly strong evidence for a critical period in acquiring the phonological patterns of the language. As suggested by the CPH, the L2 pronunciation of the learners who are exposed to a second language at early ages is more native-like than that of late learners. Although the findings above support the effects of a critical period, there are also studies which have claimed that age has no impact on pronunciation acquisition of a target language. For example, a study on Dutch learners (Bongaerts, Planken, & Schils, 1995) has shown that they are highly proficient on pronunciation. Similar results were reported by Bongaerts, Summeren, Planken, and Schils (1997) that English pronunciation of highly proficient

participants was considered as native-like by native-speakers.

To conclude, there is a considerable amount of studies for or against the CPH. It should also be considered that age by itself cannot be the only factor affecting language acquisition. Accordingly, Flege and McKay (2011) suggest other factors such as amount of L1 and L2 use, the quality and quantity of input in target language, time spent in the target language environment.

2.3. Relevant Studies

Loanword stress placement is not new, yet a fertile area for researchers in language teaching. The studies concerning this issue are often conducted in the context of linguistics (Aktaş, 2015; Gordon, 2004; Kang, 2010; Sezer, 1983). Therefore, the studies on lexical stress placement of loanwords used by Turkish speakers of English are very limited in the context of ELT, and there is no specific study concerning the aim of this study. Aktaş (2015) studied 11,351 words loaned to Turkish from 18 different languages. He analysed the stress patterns of these words with Praat and concluded that 83,3% of the loanwords lost their original stress properties and adapted the Turkish stress patterns. Moreover, it is stated that some factors determine the place of stress in a word, i.e. the number of sounds and syllables, syllable weight, morphemes which bear positive and negative features, word types, meaning and the frequency of word use.

Moreover, Lai, Wang, Yan, Chan and Zhang (2011) conducted a study on the relationship between tone and stress in Cantonese loanwords borrowed from English. 23 contextualised loanwords produced by 15 native Cantonese speakers were recorded and analyzed via Praat. They found an explicit correlation between English lexical stress and high tone, and between lexical non-stress in English and mid or low tones in Cantonese loanwords.

Lee (2017) investigated the "lexical stress features affecting the recognition of English loanwords in Korean by native English hearers", which is also the name of his dissertation. 20 English loanwords in Korean were selected, and analysis was conducted over the data gathered from 10 male Korean native speakers and 10 male English native speakers via the Praat Program. It was concluded that the lexical stress features of Korean words are significantly different from those of English words. Furthermore, it was underlined that vowel quality contributes more to spoken word recognition than suprasegmental features such as duration, intensity, and F0 (pitch).

Furthermore, Pierre (2018) conducted a study on stress assignment in Italian loanwords in English and its impact on the stress placement of foreign words by native English speakers. In the study, 7 English native speakers were asked to read Italian words which are inserted into the English words. 150 words included 100 loanwords, 26 Italian words with stress on the penultimate syllable and 24 Italian words with antepenultimate stress. The study concluded that there was a stress preservation principle between Italian and English. Additionally, the possible introduction of Italian loanwords in English by bilingual speakers might have influenced the stressing of loanwords in general because the stress pattern, massively imported from Italian, seems to be the preferential one native speakers use to stress foreign words no matter their origin.

Furthermore, Derwing, Munro and Wiebe (1998) suggest that learners who received instruction on suprasegmental features use language more efficiently and transfer the meaning better than those who received instruction on only segmental features such as vowels and consonants. Additionally, Varol (2012) investigated the effect of the Turkish sound system on Turkish adult speakers' English pronunciation of loanwords from Indo-European languages. The study was conducted with 8 Turkish doctoral students as participants. A questionnaire to obtain information such as the learning experiences, length of residence in the U.S., and an elicitation instrument which includes 21 loanwords in sentences and in isolation were used to gather data. The records where participants read 21 words in isolation and in sentences were evaluated by two raters based on a 5-point scale. It was revealed that Turkish adult speakers had difficulty producing the English phonemes which do not occur in Turkish such as θ, ð, æ. It is also stated that the participants who received explicit instruction on English phonology and pronunciation had better scores. The findings displayed that the participants' pronunciation of selected words which have the same spelling in Turkish was more accurate than the ones that were spelled differently.

The studies on lexical stress in the context of language education state that the explicit instructions concerning this issue no matter which method used should be implemented in the language teaching programs of both ELT department and MoNE (Demirezen, 2009, 2010a, 2010b, 2012a, 2012b & 2016; Hişmanoğlu, 2012; Özkan, 2010). Hişmanoğlu compared the effect of Internet-based pronunciation lessons and traditional pronunciation lessons in terms of enhancing Turkish EFL learners' accurate

stress usage. He studied with 30 participants divided into two groups. It was concluded that the experimental group subjected to Internet-based lessons scored higher than the control group received traditional pronunciation lessons.

Özkan (2010) conducted a study with the aim of developing a software application to increase efficiency on teaching word stress of English to ELT students. 25 participants used the software for 5-weeks. And the data were collected from their voice records of 60 words' pronunciation. It was stated that participants' mean scores increased after the training.

Chela-Flores (2001) states that in most of the EFL or ESL programs or materials, more emphasis is given on the segmental features of language, not on the suprasegmentals. In his paper, Demirezen (2009) suggests that English intonation relates to stress, pitch and juncture should be implemented to the teacher training curricula in Türkiye. Moreover, he states that the absence of adequate and effective materials on this issue is a great handicap for non-native teachers of English. The further studies conducted by Demirezen (2009, 2010a, 2010b, 2012a, 2012b & 2016) were concluded the similar results and stated that explicit instruction on lexical stress for ELT students is very crucial and it can be given through a special training program with specifically prepared materials concerning this issue.

In the light of the studies mentioned so far, it can be concluded that there is need for more practical findings which can serve as a tool for future material and technique development processes. As Orion (1997) states "making the correct syllable stress in a word creates a rhythm that directly affects the pronunciation of that word and its comprehension" (p. 20), it is crucial for language teachers to use accurate stress patterns since their language use directly taken as a model by their students. Additionally, Morley (1991) underlines that rather than concentrating on native-like pronunciation or language use, the primary focus of teachers should be on intelligible and comprehensible speech. Furthermore, the materials and activities should enable students to use comprehensible language.

HOW WE STUDIED STRESS

The design and methodology used in this study are described in this chapter. Firstly, the research design is explained. This is followed by a description of the participants and the setting. Next, data collection procedures and instrumentation are presented. Finally, data analysis procedures are described. The present study aims to investigate the impact of Turkish word stress patterns of loanwords on English primary stress patterns by analysing the primary stress placement of words which have been loaned from Indo-European languages to Turkish. The current study seeks to find answers to the following research questions:

1. Is there any significant difference in primary stress placement of the selected loanwords between native speakers and Turkish speakers of English?
2. If there are any differences, to what extent does a treatment on stress patterns of English eliminate these differences?
3. Do lexical stress patterns of loanwords change if they are uttered in isolation or in sentences.

3.1.Research Design

In this study, a quasi-experimental research design was used. Cook and Campbell (1979) explain that there is not any difference other than the type of sampling between experimental and quasi-experimental design which does not use random sampling because of practical constraints. In this study, group assignment was on a volunteer basis because of the impracticality of random sampling. As Johnson and Christensen (2004) mentioned, manipulating the process in order to analyze the varied value in target variables while others are controlled and kept constant is the common feature of experimental designs. In an experimental design, the researcher looks for both existing differences between variables and the impact of a consciously altered variable on others. Therefore, quasi-experimental design is appropriate for this research which seeks differences in primary stress placements of Turkish speakers of English and the purpose is to test whether the use of primary stress of non-native speakers of English can be mitigated.

Table 1.

Research Design of the Study

	Group	Pre-test	Treatment	Post-test
Native	Norm	Yes	No	No
Non-native	Control	Yes	No	Yes
	Treatment	Yes	Yes	Yes

As seen in Table 1, the pretest-posttest design is used in this study. The participants were divided into three groups. The first group is called the Native Group (NG) including only native speakers of English, providing the lexical stress norms of the native speakers. This group only took the pretest which enabled us to provide a norm to which the experimental and control groups will be compared. The non-native participants were divided into the Treatment Group (TG) and Control Group (CG) in order to understand whether or not EFL learners' lexical stress patterns can be changed with the purpose of increasing their awareness on lexical stress patterns. Both groups took the pretest and posttest, however, only the TG received the experimental intervention.

The research design of this study is The Pretest – Posttest Design, which means all groups take the pretest, then only the TG is exposed to a kind of treatment which is experimental manipulation. After the treatment, the CG and TG take the same pretest as the posttest. This makes easier to measure difference and compare the data gathered from the pretest and posttest.

3.2.Research Population and Sampling

This study was carried out at the Education Faculty of Gaziantep University. The sample of this study consisted of 20 students in English Language Teaching Department of the Education Faculty at Gaziantep University and 10 native English speakers. Participants are provided are provided a wide selection of various courses in research methods, discourse and communication, ELT methodology, linguistics, testing, and materials design in order to make them fully qualified teachers of English. Non-native speakers are chosen from among the sophomore and junior students of the department who are being trained to be teachers of English. Awareness of prosodic features of language is not only important for the learning process but also has great importance on the teaching process. Since teachers are models of language use for their students, they need to use correct patterns of language features. Therefore, this sampling of non-native speakers (NNS) among future language teachers has importance on increasing

awareness on stress patterns of English and other prosodic features.

Dörnyei (2007) states that convenience or opportunity sampling is the most commonly used sampling type in L2 research. Participants are selected among the ones who meet the purpose of the study, i.e. availability at a certain time and willingness to volunteer. Therefore, the participants of the present study were non- randomly selected among English Language Teaching Department students of Gaziantep University and native speakers of English.

There were 20 participants who are 2nd and 3rd grade students at English Language Teaching Department of Education Faculty and whose ages ranged from 19 to 34. 18 females and 2 males were accepted to participate in the research on a voluntary basis. The Michigan English Placement Test (MEPT) was taken by all the nonnative participants to determine the language proficiency of participants. Their proficiency levels varied between Lower Advanced and Advanced. The NNS were divided into two equal groups in terms of language proficiency. The participants were graduated from either private or public high schools from different provinces of Türkiye.

In this study, British, American and Canadian speakers who acquired English as a mother tongue and are living in their homeland were chosen on a voluntary basis. Audio records of 10 native participants whose ages ranged from 18 to 51 were analyzed in order to determine the native speakers' stress placement norms. There were 8 females and 2 males in the native group. This group was referred to as the Native Group (NG) to identify the norms of stress placement in the present study.

Table 2.

Summary of Participants Characteristics

Groups	**Number**	**Mother Tongue**	**Age Range**
Native Group	10	English	18-51
Control Group	10	Turkish	21-30
Treatment Group	10	Turkish	19-34

Participants were assigned on a voluntary basis and were informed that there were no payments or extra credits for participating in this study. Their identities were kept anonymous. Therefore, the data, proficiency test results and audio files of each participant were labeled with numbers. The data were collected by the investigator in

the classrooms of Gaziantep University, one participant at a time. The treatment was given to the TG. Data collection schedule was prepared according to participants' availability.

3.3.Instruments

Two different instruments were used for this experimental study: The instruments include the Michigan English Placement Test (See Appendix I) and loanword list (See Appendix II) used in this research.

3.3.1. The Michigan English Placement Test

The Michigan English Placement Test (MEPT) includes 100 multiple-choice items covering four areas of the English language: listening comprehension, grammar, vocabulary, and reading. The first twenty questions are devoted to listening comprehension. There are two types of questions; the examinee selects an appropriate reply to the given question and chooses the phrase or sentence that summarises the given statement. All the questions in this section have three answer choices. The following thirty questions, numbered 21-50, create the grammar section of the test. According to the conversation, the examinee chooses the correctly completed answer from among four answer options. Thirty vocabulary items are numbered 51-80. The examinee must choose from among the four answer choices to complete the given sentence for each question. Finally, there are twenty reading items, numbered 81-100. Each item consists of one sentence whose paraphrase should be selected among the options. The examinee is offered four answer options. The administration time for the test is approximately 75 minutes.

MEPT's reliability estimates have been conducted for several test populations at the Intensive English Program at the University of Michigan and at a university in Japan, and the results are shown in Table 3 below.

Table 3.

Reliability Estimates of the EPT

Sample	N	Mean	Std Dev	Reliability	SEM
U of M, '77	58	53.83	14.72	.89	4.88
U of M, '77	55	58.94	16.65	.92	4.71
Japan, '02	165	41.26	12.15	.89	4.03
Japan, '05	207	42.70	12.60	.88	4.36

As seen above, the results signify that the items have relatively high internal consistency and are suitable to be used in our context.

This test was used to find out the English proficiency levels of non-native students. Another purpose of employing this test is to divide Turkish students into two equal groups in order to eliminate the possible differences caused by language proficiency. Sample items for each test were presented in Appendix I.

3.3.2. Loanwords

The second instrument consists of thirty Indo-European loanwords which Turkish and English share. This instrument is composed of two different parts. The first part includes a list of the thirty loanwords used in this study and the second part consists of thirty sentences in which the words in the first section are placed (See Appendix II). All the sentences in the second section are authentic and taken from the British National Corpus.

In the process of word selection, attention was given to the fact that the stress placement of the selected words was different in Turkish and English. Some studies were used in the selection of these words in order to determine the stress placement of loanwords in Turkish (Aktaş, 2015; Kabak & Vogel, 2001; Sezer, 1983). Lexical stress placement of English words was determined via IPA phonetic transcription shown in the Cambridge Dictionary. Furthermore, the recordings of native English speakers were also used as a norm for these words. Table 4 shows the stress placement of loanwords in Turkish and English below. Primary stressed syllable is shown with a vertical stroke [ˈ] at the beginning of the syllable.

This instrument was used as both the pretest and posttest. The participants were expected to read all the items while recording. After the treatment taken by the TG, both CG and TG were assigned to record the same text as posttest.

Table 4. *Stress Placement of Loanwords*

Turkish	**English**
voˈleybol	ˈvolleyball
basˈketbol	ˈbasketball
ˈselfservis	selfˈservice
barˈkot	ˈbar code
buldoˈzer	ˈbulldozer
bumeˈrang	ˈboomerang
badiˈgard	ˈbodyguard
bayˈpas	ˈby-pass
barˈmen	ˈbarman
atˈlas	ˈatlas
aneste'zist	aˈnesthetist
akroˈnim	ˈacronym
akriˈlik	aˈcrylic
aero'bik	aeˈrobics
'nanoteknoloji	nanotech'nology
üniver'site	uni'versity
jü'bile	'jubilee
adrena'lin	a'drenaline
adaptas'yon	adap'tation
ham'burger	'hamburger
o'pera	'opera
bro'koli	'broccoli
anti'friz	'antifreeze
bank'not	'banknote
gene'tik	ge'netic
di'zel	'diesel
zep'lin	'zeppelin
forma'lite	for'mality
bar'bekü	'barbecue
asrtro'loji	a'strology

3.3.3. Data Collection Procedures

Regarding the importance of ethical issues, the researcher took the necessary permission and informed the participants about the aim of the conducted study. Verbal consent of participants was gained. Their identities were kept anonymous. Therefore, the related data which are proficiency test results, personal informationand audio files of each participant were labelled by number. Formal permission to conduct this study was taken from Gaziantep University (See Appendix III). This section gives information about the stages of research, followed by the quantitative data collection procedure. Finally, an experimental treatment plan is presented.

3.3.4. Quantitative Data Collection

This study aims to find out how accurately Turkish speakers of English articulate Indo-European loanwords in English. Therefore, the current study deals with the prosodic features of language. The test material, elaborated on in the Instruments section of the present chapter, was given to all native and non-native participants to be read and recorded. Before creating the CG and TG, the non-native participants were administered the MEPT, explained in previous sections, to eliminate the differences caused by language proficiency. They were given 75 minutes to finish the exam. None of the participants used all the time given, and 60 minutes was enough for them to finish the test. After the METP exam, the participants were asked to read the words and sentences while their speech was audio-recorded as a pretest.

According to the MEPT results, the non-native participants were divided into the TG and CG, which have equal proficiency levels, with the purpose of understanding whether EFL learners' lexical stress patterns can be changed to make their speech more native-like and create awareness on this issue. Both groups took the pretest and posttest; however, only the TG received the treatment. In total, participants read 30 loanwords along with sentences.

3.3.5. Experimental Treatment

The treatment is the researcher's intervention meant to change variables. In an experimental study, it is important to have two groups as equal as possible because the treatment group is subjected to a treatment or some special conditions while the control group serves as a criterion for comparison (Dörnyei, 2007).

In this study, the focus is on the difference between native and non-native stress patterns. A 10-hour training program on loanword stress patterns in English was designed and applied. The TG was taken to training for two weeks. The meeting time was arranged according to participants' schedules. The main aim of the experimental intervention was to raise participant's awareness of loanword stress patterns rather than creating permanent difference in their speech. Table 5 summarizes the training program.

The main purpose of the experimental intervention is to increase the awareness on stress placement. It is not aimed to create a permanent learning. Thus, the design of the treatment is based on consciousness-raising. The instructions on stress patterns of English, the primary stress placement in English, and stress patterns of loanwords in English were given in the four hours of the program to teach basic stress patterns in English. In this section video lessons from YouTube uploaded by "JenniferESL" and "Rachel's English" (JenniferESL https://youtu.be/WX1rrFh4OZ and Rachel's English https://youtu.be/sxWDDBi3e8o) were used along with the instructions given by the researcher. Three hours of the training were devoted to consciousness-raising activities such as listening to pronunciation of loanwords in isolation and in sentences through dictionaries audio sections and listening to the data gathered in the pretest identifying the stress placement of the native and non-native speakers in order to raise the awareness of participants on the current issue. In the last three hours, participants had time to practice with words and sentences, and discuss the lexical stress patterns in English which help them to gain automaticity to use these patterns. In this section, some listening activities were applied. Participants were expected to detect the stressed syllable from the sentence or the isolated word they heard. Also, some online games provided by Oxford University Press' Project Fourth Edition and word stress activities which can be found on roadtogrammar.com and EnglishClub websites were used to practice the primary stress placement as well.

Table 5. *Design of the Treatment*

WEEK	TYPE	DURATION	CONTENT	AIM
1st Week	Instructional	3 hours	- Instruction on stress patterns of English	- To teach the participants what the rules of lexical stress in English are
	Consciousness-raising	1 hours	- Listening to native speakers' recordings to identify their stress patterns - Listening to native speakers' recordings including loanwords used in this study	- To raise participants' awareness of native speakers' stress patterns
	Practice	1 hour	- Practice with words and sentences. - Peer group practice and discussions on lexical stress patterns	- To increase participants' automaticity regarding stress patterns
2nd Week	Instructional	1 hour	- Instructions on primary stress placement of English. - Instructions on stress patterns of loanwords in English	- To teach the participants what the rules of primary stress patterns of English are - To teach the participants what the stress patterns of loanwords in English are
	Consciousness-raising	2 hours	- Listening to native speakers' recordings to identify primary stress placement - Listening to native speakers' recordings including loanwords used in this study	- To raise participants' awareness of primary stress placement in English - To raise participants' awareness of stress patterns of loanwords in English
	Practice	2 hours	- Practice with words and sentences. - Peer group practice and discussions on stress patterns of loanwords	- To increase participants' automaticity regarding stress patterns of loanwords

3.6. The Context of the Study

The current study was conducted at a state university where the non-native participants are students in the English Language Teaching Department of Education Faculty at Gaziantep University where the students are subjected to initial teaching programs along with advanced English lessons on reading and writing skills, pronunciation, teaching methodologies, linguistics, literature, etc. Furthermore, native speakers who participated in the study are currently living in England, Canada or America. The present study was conducted in the spring semester of 2019.

3.7.Data Analysis

The quantitative data collected for the current study were analyzed using Praat 6.0.52 (Boersma, & Weenink, 2007) and SPSS 23.0. A normality test was applied to determine whether the sample data normally distributed. Paired-samples t- tests and one-way ANOVAs were applied to compare the results of the groups. Praat is a freeware developed by Paul Boersma and David Weenink from the Institute of Phonetics Sciences of the University of Amsterdam and enables users to analyze, synthesize, and manipulate speech. Praat is a useful software to analyze lexical stress and it is commonly used in linguistic studies (Styler, 2017). Acoustic analysis for prosodic features was carried out through a computer program named Praat in order to define the pitch levels of different syllables from the audio-recorded data. Stressed syllable is pronounced higher in pitch, longer in duration and louder in volume. A Corpus-based Online Pronunciation Learning System of the Hong Kong Institute of Education explains the lexical stress analysis in their Praat Manual for Beginners that the pitch (Fundamental Frequency/F0) contour represents the stress in Praat. It is also possible to gather the waveform, spectrogram, and pitch contour of the sound. In Praat, a waveform is used to refer to the intensity of the stressed syllable which is loudness. The pitch track shows the frequency while the spectrogram indicates the length of the syllable. Figure 2 shows the Praat analysis of the loanword “basketbol” in Turkish while Figure 3 shows the word “basketball” in English below:

Figure 2. *Analysis of "basketbol" in Praat*

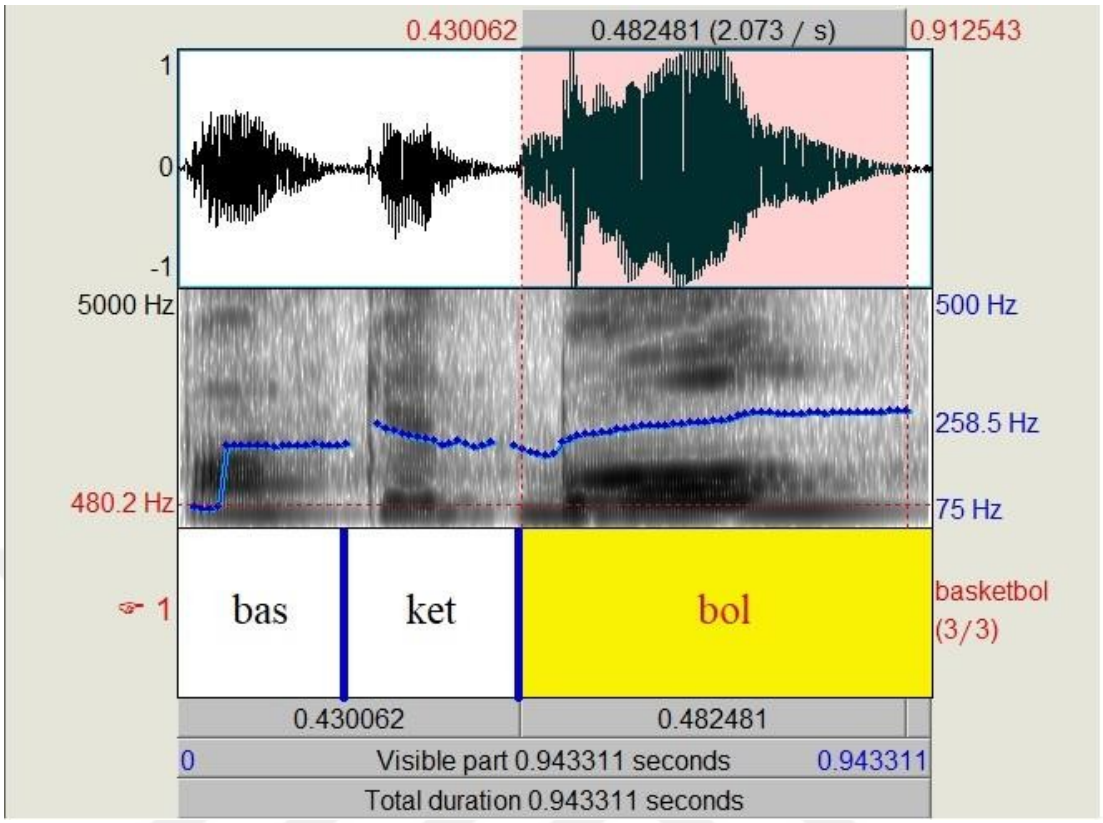
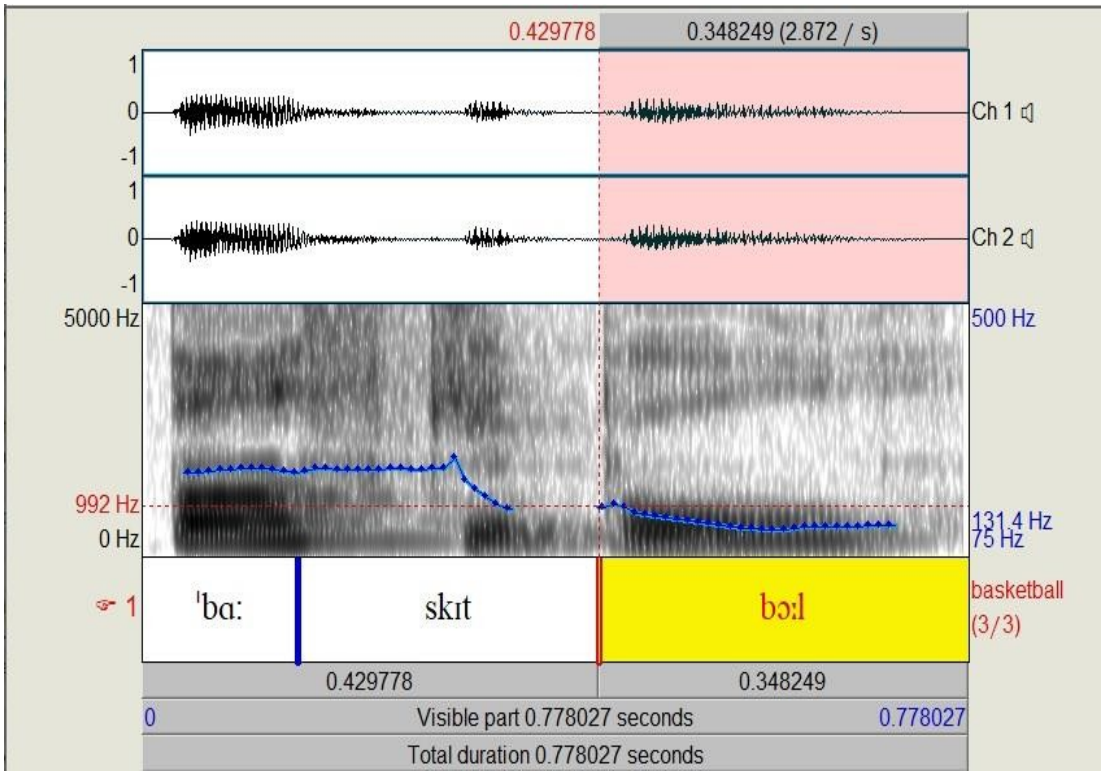


Figure 3. *Analysis of "basketball" in Praat*



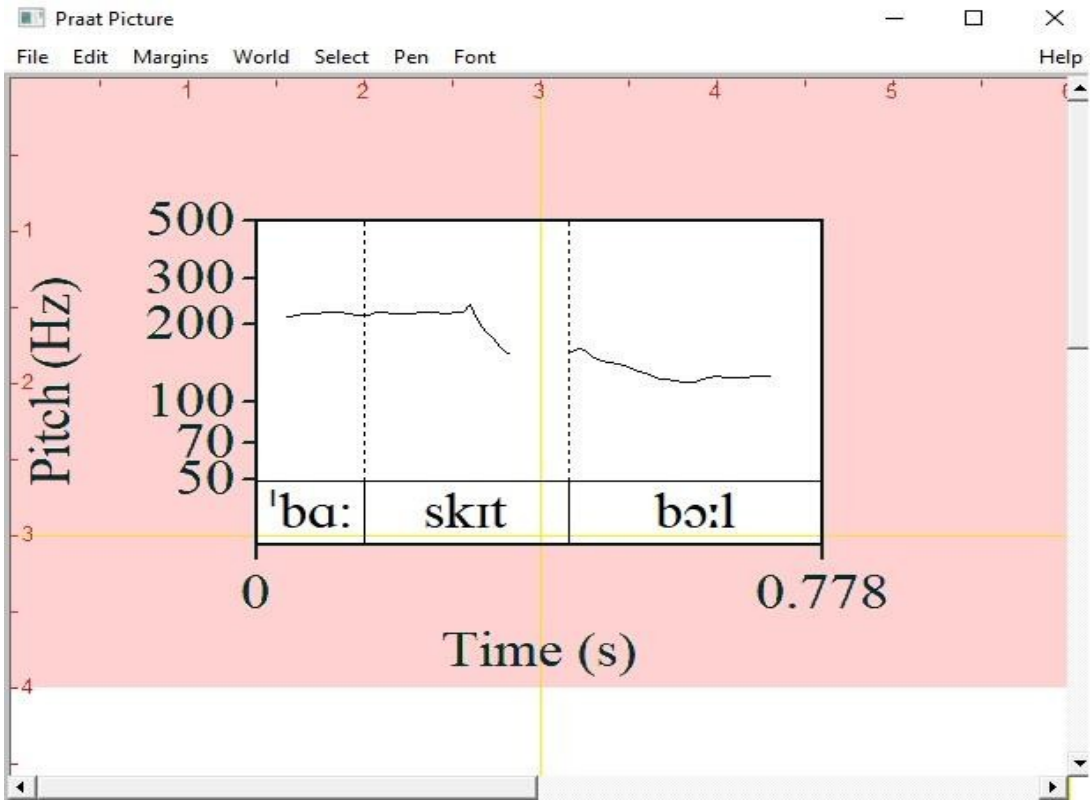
As seen in the figures above, the blue lines show the pitch and the pitch values are written in blue digits. The average pitch value of a syllable can be seen on the right of the window in a selected area. For these two words, it is possible to find the following values:

Table 6.

The pitch values of syllables in words "basketbol" and "basketball"

1st syllable	Mean Pitch (Hz)	Duration (s)	2nd syllable	Mean Pitch (Hz)	Duration (s)	3rd syllable	Mean Pitch (Hz)	Duration (s)
bas-	195.8	0.207	ket-	230.7	0.218	-bol	258.4	0.518
ba-	218.8	0.108	sket-	210.6	0.279	-bol	131.5	0.280

Figure 4. *Pitch Contour Graphic of "basketball" in Praat*



It can be understood from the table and the graphic above that the stressed syllable has both higher pitch value and longer duration. This procedure was conducted to each item in the test material and the values are noted for each of them.

After the measurement of the pretest and posttest means from Praat, statistical analyses were performed by using SPSS. Paired-samples t-tests and one-way ANOVAs were applied to compare the results of the groups, regarding the results of pitch levels of the loanwords in isolation and in sentences.

RESULTS

In this chapter, based on the research questions, the findings are presented and the quantitative findings of the present study are described.

Is there any significant difference in primary stress placement of the selected loanwords between native speakers and Turkish speakers of English?

To determine whether the sample data were normally distributed, normality tests were conducted. Analysis of Skewness/Kurtosis values was measured to check the distribution. Table 7 shows the normality statistics below:

Table 7.

Normality Statistics for the isolated word sentence and in-sentence measurements

	Skewness		***Kurtosis***	
	Value	**Std. Error**	**Value**	**Std. Error**
Isolated	-.059	.427	-1.256	.833
In-sentence	-.069	.427	-.719	.833

As Table 7 indicates, although the sample was not large, the data was normally distributed with the skewness statistic -.59 for isolated word measurements and -.069 for in-sentence measurements while kurtosis statistics are -1.256 for isolated word measurements and -.719; since both skewness and kurtosis statistics are between -1.5 and +1.5.

To answer the first research question, two one-way ANOVAs were conducted to observe any potential differences between the native speakers in the NG and the non-native speakers in the TG and CG for both isolated word measurements and in- sentence measurements. The findings are displayed in Tables 8, 9, 10, and 11:

Table 8.

Descriptive Statistics for the One-Way ANOVA Groups

	N	**$\bar{x}$ =**	**S**
Native (NG)	10	26.60	1.90
Non-native (TG)	10	10.20	6.05
Non-native (CG)	10	11.60	5.54

Table 8 indicates that NG placed the stress more accurately than the non-native speakers, with a mean of 26.60. Furthermore, it can be interpreted that the non-native groups TG and CG were relatively equal, with means of 10.20 and 11.60.

As Table 8 shows, the superiority of NG is observable. Further analysis was conducted through the Scheffe PostHoc test to determine the significant difference between groups. The results are presented in Table 8 below:

Table 9.

Analysis of Variance for Isolated Word Measurements

	Sum of Squares	**df**	**Mean Square**	**F**	**P**	**Scheffe PostHoc**
Between groups	1653.067	2	826.533			
Within groups	638.400	27	23.644	34.957	.000	NG>TG, NG>CG
Total	2291.467	29				

NG: Native Group TG: Treatment Group CG: Control Group

The findings of the one-way ANOVA display a statistically significant difference between groups (F, 34.957 = .000, $p < .001$). The Scheffe PostHoc test conducted to see inter-group differences shows that the native speaker participants ($\bar{x}$= 26.60) place lexical stress more efficiently than the nonnative participants in the TG ($\bar{x}$ = 10.20) and CG ($\bar{x}$ = 11.60).

Since our data analysis procedure has two phases which are isolated word measurement and in-sentence measurement, the same processes above were performed for in-sentence measurements. Tables 10 and 11 demonstrate the results.

The one-way ANOVA was conducted to find out the differences among groups for in-sentence measurements. The findings were displayed in Table 10 below:

Table 10.

Descriptive Analysis of Differences between Native Speakers and Non-Native Speakers for In-Sentence Measurements

	N	**$\bar{x}$ =**	**S**
Native (NG)	10	23.40	3.27
Non-native (TG)	10	14.20	4.98
Non-native (CG)	10	13.50	3.92

As can be seen from Table 9, the NG ($\bar{x}$ = = 23.40) outperformed the TG ($\bar{x}$ = 14.20) and CG ($\bar{x}$ = = 13.50) in terms of their lexical stress placement in sentences. Similar to the results of isolated word measurements, the mean of native speakers was greater than that of the TG and CG, while non-natives (TG, $\bar{x}$ = 14.20 and CG, $\bar{x}$ = 13.50) had approximate scores. The Scheffe PostHoc test determined the significant difference between groups (see Table 11).

Table 11.

Analysis of Variance for In-Sentence Measurements

	Sum of Squares	**df**	**Mean Square**	**F**	**P**	**Scheffe PostHoc**
Between groups	610.467	2	305.233			
Within groups	458.500	27	16.981	17.974	.000	NG>TG, NG>CG
Total	1068.967	29				

NG: Native Group TG: Treatment Group CG: Control Group

According to the one-way ANOVA results for in-sentence measurements shown in Table 10 above, the difference between the means of the three groups was statistically significant (F, 17.974 = .000, p < .001). The PostHoc test shows statistically significant differences between the NG and TG and NG and CG.

As the analysis displays, there was a significant difference in the means of the three groups. The NG had superiority over the TG and CG for isolated word and in-sentence measurements. As seen above, non-natives, such as the TG and CG, had approximate scores when they read the words both in isolation and in sentences in the administration of word readings as a pre-test.

If there are any differences, to what extent does a treatment of stress patterns in English eliminate these differences?

This research question aimed to investigate whether an intervention to increase their awareness can help non-native speakers improve their pronunciation on the suprasegmental level and sound more native-like. To answer the present research question, an independent samples *t*-test was used to compare the post-test results of TG and CG. Two paired-samples *t*-tests were performed to determine whether there was a statistically significant difference within each group. Tables 12, 13 and 14 exhibit the results:

Table 12.

Independent Samples T-Test Results for the Post-Test Findings on Primary Stress Placement in Isolation and In-Sentences between the TG and CG

	Group	***N***	***M***	***SD***	***df***	***t***	***P***
Iso post-test	Treatment	10	21.00	4.52	18	3.066	.007
	Control	10	14.50	4.95			
Sent post-test	Treatment	10	19.10	5.47	18	1.504	.150
	Control	10	15.50	5.23			

As the results in Table 12 show, when the post-test results of groups were compared, it is possible to conclude that there is a statistically significant difference between the TG ($\overline{x}$ = 21.00, SD = 4.52) and CG ($\overline{x}$ = 14.50, SD = 4.95) for isolated word measurement ($p < .01$). However, Table 12 also indicates that after the treatment, no statically significant difference ($p > .05$) was obtained between in- sentence post-test results of the TG ($\overline{x}$ = 19.10, SD = 5.47) and CG ($\overline{x}$ = 15.50, SD=5.23).

Paired samples *t*-tests were conducted to determine whether an intervention about stress placement of loanwords could improve learners' usage of stress patterns. The pre-test and post-test results for both isolated word measurements and in-sentence measurements TG and CG were analysed as two paired samples *t*-tests. One of the paired samples *t-tests* was performed to see the improvement of the TG after the provided treatment. Table 13 states the findings below:

Table 13.

Summary of the Paired Samples T-Tests for the TG

	Group	***N***	***M***	***SD***	***df***	***t***	***P***
Isolation	Pre-Test	10	10.20	6.05	9	-5.245	.001
	Post-Test	10	21.00	4.52			
In-Sentence	Pre-test	10	14.20	4.98	9	-2.889	.018
	Post-Test	10	19.10	5.47			

In Table 13, paired samples *t*-test results indicate a statistically significant difference between the pre-test and post-test scores of the TG. For isolated-word measurements, the TG statistically significantly improved with the help of the treatment given after the pre-test ($\overline{x}$ = 10.20, SD = 6.05) and had higher scores on the post-test ($\overline{x}$ = 21.00, SD = 4.52) ($t(9) = -5.245$ $p < .05$). Similar results can be seen for in-sentence pre-test scores ($\overline{x}$ = 14.20, SD = 4.98) and post-test scores of the participants ($\overline{x}$ = 19.10, SD = 5.47). It can be concluded that the TG had responded to the intervention positively and showed statistically significant improvement on isolated word readings ($t(9) = -5.245$ $p < .05$) and in-sentence readings ($t(9) = -2.889$ $p < .05$).

The second paired samples *t*-test was implemented to compare the pre-test and post-test results of the CG. The findings were presented in Table 14:

Table 14.

Summary of the Paired Samples T-Tests for the CG

	Group	***N***	***M***	***SD***	***df***	***t***	***P***
Isolation	Pre-Test	10	11.60	5.54	9	-1.773	.110
	Post-Test	10	14.50	4.95			
Sentence	Pre-test	10	13.50	3.92	9	-1.482	.173
	Post-Test	10	15.50	5.23			

The CG was not subjected to any intervention; their paired samples *t*-test results in Table 14 above, show that there is no statistically significant difference between their pre-test scores ($\overline{x}$ = 11.60, SD = 5.44) and post-test scores ($\overline{x}$ = 14.50, SD = 4.95) ($t(9) = -1.773$, $p > .05$) for stress placement in isolated words. Equivalently, the findings show that the participants did not make any statistically significant progress on their primary

stress placement in words which are inserted in sentences when their pre-test scores ($\overline{x}$ = 13.50, SD = 3.92) and post-test scores ($\overline{x}$ = 15.50, SD = 5.23) ($t(9) = -1.482$, $p > .05$) were compared. Although no statically significant difference was found, it is clear from the means of both post-test scores of isolated word measurements ($\overline{x}$ = 14.50, SD = 4.95) and in-sentence measurements ($\overline{x}$ = 15.50, SD = 5.23) that the CG made progress to an extent which can be attributed to the effect of the pre-test applied.

Do lexical stress patterns of loanwords change if they are uttered in isolation or in sentences?

This research question aims to find out if there is any difference on primary stress placement of loanwords when they were uttered in isolation or in sentences. To answer this research question, all the participants' pre-test scores were analyzed through independent Samples t-test for the isolated word and in-sentence measurements, the findings are presented in Table 15:

Table 15.

Summary of the Independent Samples T-Test for the Isolated Word Measurements and In-Sentence Measurements of the Participants

Group	***N***	***M***	***SD***	***df***	***t***	***p***
Isolation	30	16.13	8.89	29	-.745	.462
Sentence	30	17.03	6.07			

Table 15 shows that there is no statistically significant difference between isolated word measurements and in-sentence measurements of the whole group of participants (N = 30) ($t(9) = -1.482$, $p > .05$), which indicates that lexical stress placement does not vary according to whether the word is uttered in isolation or in a sentence.

In conclusion, it is obvious that the NG are superior to Turkish speakers of English, and also, NNS have difficulty with primary stress placement of loanwords. Besides, it is observed from the pre-test and post-test comparisons of the TG and CG that treatment on primary stress placement has increased participants' awareness on this issue. The TG has higher scores on primary stress placement of loanwords in isolation than the CG. There is progress on in-sentence measurements after the treatment;

however, no statically significant difference has been found. Additionally, no statistically significant difference is seen primary stress placement of loanwords uttered in isolation and in sentences.

DISCUSSION

This chapter aims to discuss the findings of the study presented in the previous section by referring to the related literature in the first and second chapters. This chapter represents the discussion of each research question addressed in the present study:

Is there any significant difference in primary stress placement of the selected loanwords between native speakers and Turkish speakers of English?

Loanwords which have similar or same pronunciation make word stress placement more confusing than other words for non-natives while pronouncing them in L2. This question aimed to find out to what extent NNS correctly place the primary stress. To answer this research question, 10 native and 20 non-native speakers of English were asked to read 30 isolated words, which are shared by English and Turkish, and 30 sentences where these words were inserted. Their audio- records were analyzed via Praat and the primary stress placement of the readers was calculated for each item. The primary stressed syllable was determined through the measurement of the pitch level of each syllable in a word. Then, the findings were studied on SPSS to obtain the statistical results.

The results of the analyses showed that there was a statistically significant difference in primary stress placement of the selected loanwords between natives and Turkish speakers of English. The NG was superior to non-native group. When the mean scores of the NNS are considered, it can also be seen that the NNS were divided into two equal groups as the TG and CG to be able to answer the second research question.

Some studies on lexical stress in general (Hişmanoğlu, 2012; Özkan, 2010; Bongaerts, Planken, & Schils, 1995 and Bongaerts, van Summeren, Planken, & Schils, 1997) also stated the misplacement of primary stress in words. The results show concordance with Varol's (2012) study where some level of transfer was found in Turkish speakers' utterances of loanwords.

If there are any differences, to what extent does a treatment on stress patterns of English eliminate these differences?

As the first question revealed, a significant difference was found between native and Turkish speakers of English. To answer this question, the non-native speakers were divided into two equal groups based on the MEPT results with the aim of eliminating the effect of proficiency level. The TG took a 10-hour training for 2 weeks while the CG was not subjected to any intervention. The focus of the treatment program was awareness raising on lexical stress of loanwords and the short-term effects of it. After the treatment, both the TG and CG were asked to read the same 30 words and 30 sentences which were applied as the pre-test. The post-test data analysis procedure was conducted as in the pre-test.

Paired samples *t*-test results indicated that after the treatment was provided to the TG about lexical stress placement in English, observable progress was made by the participants who attended the training. Moreover, The TG had also scored higher mean on in-sentence measurements. On the other hand, the CG did not take any training on word stress; therefore, no statistically significant difference between the pre-test and post-test was found for isolated measurement. Equivalent results were stated for in-sentence measurements in the pre-test and post-test analyses. However, it can be noted that there was an increase in both isolated word and in-sentence means. Although there is no statistically significant difference, the improvement of the CG can be attributed to the effect of the pre-test applied. The independent samples *t*-test results showed that there was a statistically significant difference between the TG and CG for post-test isolated word measurement but no significant difference was found between in-sentence post-test results of the TG and CG.

As stated in the second chapter of this study, the age factor has an impact on the acquisition of stress patterns. Since all the participants are adults, it is normal for them to have foreign accents. Krashen, Long and Scarcella (1979) stated that adults may learn the features easier; however, they may struggle in native-like use of target language in the long run. In our case, it is possible to conclude that non-native participants of this study received explicit instruction on lexical stress patterns of English to increase their awareness on this critical issue, and they had significantly higher scores on implementing these rules to words in isolation. Even though there are improvements on the placement of lexical stress in words which are inserted in sentences, this progress was not significant. This result can be attributed to the age effect because while reading a sentence, they have to use not only stress patterns but also other features of language

and they may stumble to implement all the features at once. Although it is obvious that they retrieved information about lexical stress and made progress in isolated word measurements, the participants also showed deficits in using them in context. This finding is consistent with the study of Sanders, Yamada and Neville (1999).

The Lingua Franca Core, modified by Jenkins (2000a) after Jenner's (1989) work titled Common Core, is critical for this study. Jenkins (2005) places the word stress in non-core features by suggesting that it is "unnecessary" to teach and "can reduce flexibility" (p. 143). Although the main emphasis is given on the intelligibility of the spoken language, the findings of our study and the studies mentioned (Dickerson, 1994; Dauer, 2005; Demirezen, 2010a; 2010b; Hişmanoğlu, 2012; Özkan, 2010; Lord, 2005) showed the importance of giving explicit instructions on suprasegmental features of the language to improve learners' language proficiency and competence. It is also possible to conclude that suprasegmental features can be taught and should be included in the ELT curriculum. Due to the Communicative Approach becoming an issue, the teaching and learning focus has moved from segmental features to suprasegmental features, specifically on stress and intonation patterns (Celce-Marcua, Brinton & Goodwin, 2010).

Slowiaczek (1990) conducted a study on native speakers' recognition of word stress. A shadowing task was used with the aim of proving the effect of word stress on native speakers' meaning processing. The results of the study displayed that incorrect placement of lexical stress had negative effects on native speakers' recognition of meaning. A similar study that proves the effect of lexical stress in communication concluded that native speakers of English focus on stressed syllable rather than unstressed syllables (Aitchison, 1994). Congruently, it is concluded that a native speaker probably gives attention to mis-stressed word to decode the message, rather than listening the segments (Benrabah, 1997). For this reason, it is important for learners to focus on word stress instead of correctly pronounced sounds or segments.

The findings of the current study are consistent with the findings of Lord's (2005) study where the pronunciation of adult learners of Spanish improved dramatically after 10 weeks of explicit instruction on Spanish phonology. Additionally, Hişmanoğlu (2012) stated that the students who attended Internet- based video lessons outperformed in terms of maximizing their pronunciation of primary stress in English

words. Özkan (2010) also concluded that instruction on word stress patterns is crucial for future teachers. The findings show strong concordance with the studies of Demirezen (2010a; 2010b), which point to the necessity of word stress patterns in English instruction.

Do lexical stress patterns of loanwords change if they are uttered in isolation or in sentences?

This research question aimed to find out the differences between isolated pronunciation and in-sentence pronunciation of loanwords. As Oller & Ziahosseiny (1970) stated that pronunciation errors probably increase due to the existence of corresponding sounds in the first language of NNS. Consequently, it was thought that reading the isolated words that were borrowed from other languages with little or no adjustment might cause confusion since their spelling and pronunciations are similar. Accordingly, it was expected that the participants would have better scores while reading borrowed words in sentences since there are contexts leading them to use English language patterns. However, for isolated words, no context is provided which may cause confusion to divide the pronunciation patterns from Turkish to English and researcher did not give any information or a clue about pronunciation or stress patters of these words.

In order to answer this question, the pre-test results were analyzed to observe the differences before any intervention. These results suggest that there was no significant difference in the means of isolated word measurements and in-sentence measurements of the participants. Further analysis can be conducted to determine the factors and also to find out to what extent they place the primary stress similarly.

CONCLUSION AND RECOMMENDATION

The present study investigated primary stress placement in English pronunciation of Indo-European originated loanwords in Turkish by Turkish speakers of English. This study aims to increase awareness on prosodic features of language that are important for intelligibility and sustainability of communication. The samples were chosen among future teachers of English with the aim of consciousness-raising since they will be models of language use for their students.

In the first chapter, statement of the problem, the aim of the study, the significance of the study, assumptions, limitations, and definition of the keywords were presented. In the second chapter, lexical stress placement in English and in Turkish was explained and stress patterns of these two languages were compared; related literature was reviewed and the results of similar studies were shared. The third chapter presented the methodology of the study. Procedures, research design, research population and sampling, instruments, data collection procedures, context of the study and data analysis were elaborated. The statistical results of each research question were revealed in the fourth chapter. The related findings of each question were discussed by referring to the related literature in the next chapter. Finally, in this last chapter, the conclusion of the study and recommendations were presented.

6.1. Conclusion

This study intended to investigate lexical stress placement in English pronunciation of Indo-European words loaned to Turkish by Turkish speakers of English. Furthermore, it was aimed to increase awareness on a single but important element of prosodic features, since misusage of primary stress may cause breakdowns in communication.

The first research question revealed that there is a statistically significant difference in primary stress placement between native speakers and Turkish speakers of English. None of the Turkish speakers could pronounce the selected words without negative L1 transfer or the negative effect of their previous experiences with the words. The non-native speakers were divided into two groups for the purpose of observing the effect of treatment on lexical stress patterns of English. The analysis of the second

research question showed that the participants who were subjected to the treatment made significant progress. The last question investigated the differences in utterances of the loanwords between the isolated pronunciation and in-sentence pronunciation in terms of primary stress placement of loanwords. As a result of analysis, no statistically significant difference between isolated utterances and in- sentence utterances of these words was found.

In the light of these findings, it can be stated that Turkish speakers of English had difficulty in improving their suprasegmental pronunciation skills because they often focus on pronouncing each sound in a syllable or word correctly rather than considering prosodic features of English which is a stress-timed language. Therefore, they may face breakdowns in communication or misunderstandings. Slowiaczek (1990) and Aitchison (1994) found that word stress has a great effect on native speakers' recognition of meaning. For example, while speaking on the telephone with a bad line, it is enough for a native speaker to detect the stress in the word "photo" to guess the rest of the word which could be "photograph" /ˈfəʊ.tə.grɑːf/, "photographer" /fəˈtɑg.rə.fər/ or "photographic" /ˌfəʊ.təˈgræf.ɪk/. Therefore, instruction of lexical stress patterns is crucial for NNS to increase their language competence.

Consequently, it can be concluded that explicit instruction on lexical stress in English helps non-native speakers to improve their language skills. The instruction can be based on Computer-Based Teaching (Demirezen, 2012b; Özkan, 2010), Communicative Approach etc. Even though word stress was considered as a non- core feature of the language and unnecessary to teach for the sake of intelligibility (Jenkins, 2005), Field (2005) found out that both native and non-native speakers of English have serious problems with the ability to locate the words with incorrectly placed lexical stress within speech. Accordingly, if lexical stress is taught systematically and effectively along with other phonological features, it would lead to intelligible speech. Ahmad (2018) underlines the importance and effectiveness of explicit introduction in successfully applying stress and intonation. Furthermore, effective usage of word stress is crucial for language teachers. As Demirezen (2010a, 2010b and 2012) stated, lexical stress should be emphasised in teaching programs at ELT departments. Furthermore, it can be seen from the findings that it is crucial for adult learners to undergo explicit training on second language phonology/pronunciation to acquire target language sounds successfully. Language teachers who teach Turkish learners could benefit from these

results in addressing the difficulties in terms of pronunciation and creating explicit teaching materials to be used in classrooms. The findings of this study can serve as a tool for language teachers to create materials to function as effective resources that eliminate these difficulties for NNS at any level of language education.

6.2. Recommendations

In the light of the results obtained from the current study, some recommendations for further research can be suggested:

1. Word stress patterns are quite a new research topic; therefore, further studies are needed.
2. This study was limited to 10 native and 20 non-native participants and 30 loanwords. This study can be applied to a broader sampling group with a larger number of loanwords.
3. The reasons for the differences in stress placement of loanwords can be studied for a better understanding.
4. A similar study can be conducted with native speakers of other languages.
5. This study was conducted during the period of one semester and did not aim to look into the long-term effects of training. Further research in a longer period can be conducted.
6. Curriculum and material developers can benefit from the results of this study to create more specific materials to eliminate the differences.
7. Based on the findings found for the third research question, a detailed analysis can be made.
8. Language teachers can create and use explicit teaching materials for lexical stress patterns of English.

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APPENDICES

Appendix I - Sample Questions from each section of the MEPT

1. **Listening Comprehension**

Example I.

Listen: "John and Mary went to the store."

a. Only John went.

b. Only Mary went.

c. They both went.

Example II.

Listen: "When are you going?"

a. I am.

b. Tomorrow.

c. To Detroit.

2. **Grammar**

Example I. "What's your name?"

"_____name is John."

a. I

b. Me

c. My

d. Mine

Example II. "I'm from Chicago."

"Oh, I thought you _____in Texas."

a. were borned

b. had born

c. were born

d. was born

3. Vocabulary

Example I. I can't _____ you his name, because I don't know it.

a. talk

b. say

c. speak

d. tell

Example II. The tress _____us from the sudden rainstorm.

a. permitted

b. surrounded

c. contained

d. sheltered

4. Reading

Example I. *John drove me to Eleanor's house.*

Who drove?

a. I did.

b. John did.

c. John and I did.

d. Eleanor did.

Example II. *If you try to do too much at once, you'll not only tire yourself, but also do a bad job.*

The warning is against …….

a. doing too many things.

b. not trying hard enough.

c. doing things only once.

d. working too slowly.

Appendix II - Loanwords

Part A. Words in Isolation

1. volleyball
2. basketball
3. self-service
4. barcode
5. bulldozer
6. boomerang
7. bodyguard
8. by-pass
9. barman
10. atlas
11. anaesthetist
12. acronym
13. acrylic
14. aerobics
15. nanotechnology
16. university
17. jubilee
18. adrenaline
19. adaptation
20. hamburger
21. opera
22. broccoli
23. anti-freeze
24. banknote
25. genetic
26. diesel
27. zeppelin
28. formality
29. barbecue
30. astrology

Part B. Words in Sentences

1. Gill took up volleyball at school and returned to the sport three years ago.
2. They tried to play our style of basketball and it worked our guys up and brought a competitive edge out of them.
3. Price for the main courses included vegetables or salad from a self-service salad bar.
4. To read in such a small bar code successfully requires a very high degree of resolution.
5. It took the 45 ton bulldozer just 8 minutes to flatten 4 homes that had stood for 52 years.
6. A boomerang workshop promises a prize for the 'best returner'
7. The former bodyguard to the Princess faces a second trial next month.
8. Coventry manager and former England coach Don Howe, now 56, had a bypass operation less than four years ago.
9. An inquest has failed to establish how a twenty six year old barman came to be found dead in his flat.
10. I went to the library the other day and had a look in the atlas to see where Naples is.
11. You will be seen by an anaesthetist before your operation.
12. 'That's an acronym I haven't come across.'
13. Most of these are water-based acrylic paints, are quick drying and have a low odour.
14. Gillian does aerobics sessions every evening.
15. This conference organised by the National Physical Laboratory, will focus on the applications of nanotechnology in medicine and biosciences.
16. I apply for university without any real idea of what I want to do.
17. She celebrated her Diamond Jubilee with great pomp and ceremony.
18. As you move slowly apart, to rest, your adrenaline levels drop quickly…
19. Then there is the need for the nature of any adaptation to learning material to be understood by the teacher and the teacher's aid.
20. I always eat hamburger and chips on Thursdays

21. I have watched her at the opera, where she glittered.

22. Cabbage, broccoli and brussels sprouts are rich in Vitamin C…

23. A glycol ether of the same chemical group from which antifreeze is derived.

24. A large denomination bank note found in the Carlisle Road area on March 13.
25. The name ‘panther’ comes from its genetic classification.
26. At least that was the case in Britain, where the gap between petrol and diesel fuel prices has always been small.
27. Zeppelin airships had been developed before the outbreak of war.
28. They didn’t even bother with the formality of retiring to consider the case.
29. There’s a delicious barbecue grill on offer in the evenings.
30. Through astrology one could be forewarned of the exact time of his coming.