Promoting Pre-service Language Teachers' Intelligibility in English: Focus on Acquisition of Lexical Stress Patterns

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Abstract

The present study aims to investigate Turkish pre-service English language teachers' competence in using lexical stress patterns as part of intelligible pronunciation in English prior to their professional lives. The participants of the study were fifty senior pre-service students, nine of whom received special training on stress patterns in English.The study is of descriptive nature with a self-perception questionnaire distributed to fifty pre-service teachers and of quasi-experimental nature with the treatment of nine pre-service teachers about stress patterns in words in English for a period of four weeks. The results of the study reveal that pre-service English language teachers lacked substantial knowledge as to the placement of lexical stress in English and needed remedial training.The experimental study with a group of nine pre-service teachers of English showed that Turkish prospective teachers of English attained a high level of competency in stress placement in words having been provided with ample practice.

Key Words: Lexical stress, English language teaching, Pre-service teachers

1. Introduction

Diverse varieties of the English language and the complexity of English language pronunciation can make native-like mastery of pronunciation an unrealistic expectation on the part of non-native learners of English (Alptekin 2002). Such reservations may bring "intelligible pronunciation" (Morley, 1991, p. 488) to the forefront, entailing speaking "coherently and intelligibly" (Murphy, 1991, p. 52). However, intelligible pronunciation may emerge as a weak element for learners of English in non-native speaking settings with syllable-timed languages due to the nature of English as a stress-timed language (Harmer, 2001). Turkish language as a syllable-timed language may also pose difficulties for Turkish learners of English (Seferoğlu, 2005) as well as for pre-service teachers of English in acquiring intelligible pronunciation in English. The aim of this study is thus to investigate and attempt to improve senior pre-service English teachers' pronunciation with specific reference to word-stress placement as part of intelligible English before they commence their professional lives and also to help disseminate good pronunciation skills to their potential learners of English once they are in their professional careers.

2. Literature Overview

Native-like mastery on the part of non-native English language learners may remain a utopian expectation and has been challenged by such rising concepts as English as a lingua franca or English for International Communication (Coşkun, 2009). However, the emerging need for more people who can communicate in English for different purposes (Kırkgöz, 2009) necessitates acquisition of intelligible English for non-native learners. Intelligibility has therefore emerged as an important issue for non-native learners of English for successful communication. Levis (2005) argues that the intelligibility principle focuses on pronunciation with individual accent features and some possible errors not affecting communication while the nativeness principle entails native-like pronunciation without any errors. In such a discussion, Munro and Derwing (2006, p.521) outline that "accentedness refers to the extent of the differences between native speaker and non-native speaker productions ... intelligibility refers to how much a listener actually understands".

Integrating pronunciation instruction into English language teaching programs might immensely contribute to non-native learners of English on the way to "achieve the goal of improved comprehension and intelligibility" (Harmer, 2001, p.183). However, pronunciation instruction, with a micro view, deals with accurate production of such segmentals as consonants, vowels, and consonant clusters (Morley, 1991). In this view certain segmentals such as consonants and their clusters at the beginning and in the middle of words, and production of long and short vowels are of high importance for intelligibility (Jenkins 1998). Whereas a holistic view focuses on suprasegmentals such as sound changes in connected speech, stress patterns, rhythm, and intonation (Morley, 1991). Acquisition of prosodic features may therefore contribute to the achievement of intelligible English, alleviating speech production or pronunciation problems to a large extent (Derwing & Munro, 2005; Derwing, Thomson & Munro, 2006). Addressing lexical and sentential stress patterns as part of pronunciation competency is likely to lead to successful communication (Derwing, Munro, & Wiebe, 1998). As the stressed syllable is an "access code or, at the very least, a reliable signpost to its identity" (Field, 2005, pp. 418-419) and native speakers pay particular attention to stressed syllables in communicating with others (Harmer, 2001; Celce-Murcia, Brinton, & Goodwin, 1996), non-native speakers of English largely unaware of prosodic features of pronunciation may fail to establish successful communication in either getting the interlocutor's message or in putting their messages across. Harmer (2001) highlights that "stressing words and phrases correctly is vital if emphasis is to be given to the important parts of messages and if words are to be understood correctly" (p. 184) as lack of stress mark or incorrect stress pattern may lead to breakdown in communication or misunderstanding (Celce-Murcia, et al., 1996; Celce-Murcia, Brinton, & Goodwin, 2010; Harmer, 2001).

Stress means "the intensity, or loudness (volume/time ratio) of the air stream" (Hudson, 2000, p.27) as stressed syllables are "longer, louder, and higher in pitch" (Celce-Murcia, et al. 1996, p.131). English has one "strongly stressed syllable" in a word with two or more syllables which are "lightly stressed" or "unstressed syllables" and the stressed syllable is produced loudly while the other syllable(s) is (are) uttered very quietly (Celce-Murcia, et al. 1996, p.132). Lexical stress pattern in English can be analyzed in terms of affixation in word-stress, noun stress patterns, and verb stress patterns (Çelik, 1999) or in terms of "the historical origin of a word, affixation, and the word's grammatical function in an utterance" (Celce-Murcia, et al., 1996, p. 133). Lexical stress may be hard to acquire owing to L1 varieties; however, it plays a crucial role in speech-intelligibility training (Murphy & Kandil, 2004; Field, 2005; Fischler, 2005; AbuSeileek, 2007). Thus, learners of English need to develop better pronunciation skills in allocating correct stress patterns, which is a realistic expectation on the part of learners and can be achieved largely by English language teachers with such competence.

In Turkey the majority of research studies have investigated segmental features of pronunciation (Çelik, 2008; Demirezen, 2010; Hismanoglu & Hismanoglu, 2011; Hismanoglu, 2012), while focus on suprasegmentals such as stress pattern, rhythm, and intonation has been relatively limited (Çelik, 2001; Seferoğlu, 2005; Demirezen, 2009) and no studies have investigated pre-service English language teachers' use of stress patterns in the Turkish context. Within the framework of the aforementioned stress patterns in English, the present study has therefore the main purpose to investigate and then to improve a group of pre-service English teachers' knowledge and application of correct stress placement in words.

3. Method of the Study

3.1 Participants

This study was conducted in the spring term of the 2011-2012 academic year in the English Language Teaching program of a Turkish university. A pre-service English Language Teaching program in the Turkish context runs four years after a compulsory English preparatory program and has the primary purpose to educate English language teachers. The pre-service teachers receive courses in English Language Teaching (ELT) methodology offered in English in which they may receive sporadic instruction on pronunciation. The participants of the study were 50 pre-service teachers (36 female; 14 male) in their final year. Purposive sampling method was used to select the participants: fifty senior pre-service teachers were available for the administration of the questionnaire and were all included in the first phase of the study with a purpose to investigate their knowledge of lexical stress patterns in English. Further, nine volunteering student teachers took part in the second phase of the study.As it would be beyond the scope of this research to conduct an experimental study with all the final year students, the researcher had to select only the volunteering ones of these fifty participants with an idea that even a small scale

study with a small group of pre-service teachers of English would give an idea about the application of English stress patterns in the Turkish context. Therefore only nine participants (8 female, 1 male) received remedial training on stress patterns in English forming the treatment group.

3.2 Procedure

The study is of descriptive nature with a self-perception questionnaire and of quasi-experimental nature (one-group pretest-posttest design) with the treatment of a group of pre-service teachers about stress patterns in words in English. 50 pre-service teachers were given a questionnaire as to their use of word-level stress patterns in English. Since the purpose of this pre-study questionnaire was to investigate the extent to which pre-service teachers of English in this particular context received instruction on stress patterns in English and also to identify their competency level before their graduation, a post-study questionnaire was not distributed to the same group. Instead a group of nine pre-service teachers of English received special treatment in stress patterns in English and also they were given a post-study questionnaire. The pre-study questionnaire had two sections; namely, a) demographic information b) a test on lexical stress. In the test the participants were to choose the option with correct stress pattern. The test included 92 items as to lexical stress that reflected different types of stress pattern in English; namely, word stress patterns in nouns, in verbs and in suffixes. Word-level test items were based upon samples from Celce-Murcia, et al. (1996), Cook (1991), and Çelik (1999) and also on the researcher's own observation of pre-service teachers' pronunciation errors in micro-teaching sessions in the course 'Teaching English to Young Learners'. All the items were double checked against electronic version of Cambridge Advanced Learner's Dictionary (2003) for each word stress. The main categories of the questionnaire as to word stress are shown in Table 1. In this study all the primary stressed syllables are typed in large capital letters and also printed in bold in all the tables. The questionnaire was piloted with 15 major year students for reliability purposes and also with a native speaker of English and with four other ELT specialists in the ELT department for suggestions on the content of the questionnaire. The results of Cronbach's Alpha reliability test showed that the questionnaire was reliable enough as it had Cronbach's Alpha value of .63 (N of Items 92).

Table 1: Word stress categories in English

(Adapted from Celce-Murcia, et al., 1996; Çelik, 1999; and Cook, 1991)

NOUNS	
Core vocabulary items	**STU**dent, **HU**man, **CLI**mate
German origin- kinship terms	**FA**ther, **YEL**low, **SIS**ter
French origin nouns	**DOC**tor, **FOR**eign, **MAN**age (n)
Nouns used as verbs	**OB**ject (n), **CON**vict (n)
One-syllable nouns with suffixes	**TEACH**er, **ACT**ress
COMPOUNDS	
Adjective compounds (set phrases)	**HAND**out, the **WHITE** House
Adjective compounds (descriptions)	a green **HOUSE,** a dark **ROOM,** MIDdle-**AGED**
Adjective compounds (materials and possessives)	a **GOLD WATCH,** a **BABY'S BOT**tle
NUMBERS	four**TEEN, TWEN**ty, SEVenty-**SIX, FIF**tieth
REFLEXIVES	my**SELF**
VERBS	com**PARE**, ex**PLAIN**, per**SUADE**, per**FECT,** for**GET,** pre**SENT**
PHRASAL VERBS (particles functioning as prepositions)	dis**PENSE** with, **LOOK** at
PREFIXES	
Prefixes unstressed	pro**POS**al, com**PLAINT, o**ver**COME(v),** sur**PRISE,** a**SLEEP,** in**CRE**dible
Prefixes stressed	**UP**roar (n), **FORE**CAST (n)
SUFFIXES	
Suffixes stressed	tech**NIQUE,** bal**LOON,** millio**NAIRE,** engi**NEER,** cas**SETTE,** Suda**NESE,** ara**BESQUE**
Suffixes unstressed	**FRIEND**ly, **FO**llowing, ex**CI**ting, **HAP**py, ex**ACT**ly
Penultimate Stress	cli**MAT**ic, DEMo**CRAT**ic, ACa**DEM**ic, Eco**NO**mic, exAMi**NA**tion, ACade**MIC**ian, ENER**GET**ic
Ante-penultimate Stress	**CRI**tical, ECO**LOG**ical, geo**LOG**ical, de**MOC**racy, e**CO**logy, a**CAD**emy, re**AL**ity, so**CI**ety,
PROBLEMATIC WORDS	ex**ACT**ly, **PUR**pose, po**LICE, SWORD,** per**HAPS, E**ffort, mu**SE**um, **KNOW**ledge, **BEAU**tiful, **EN**ergy, to**MOR**row, ex**AM**ine, be**CAUSE, ED**uCATE(v), com**PU**ter, **AL**ways, INter**NA**tional, cor**RECT, Il**lustrate, INfor**MA**tion, ac**TI**vity, u**NIQUE, LAN**guage, **PRE**ference

In addition, nine student teachers had been video-taped during their micro teaching in the course 'Teaching English to Young Learners' and each recording that lasted about 20 minutes was analyzed by a native speaker as to the application of lexical and sentential stress patterns, rhythm, intonation and intelligibility. The native speaker of English was teaching freshman students speaking courses and had good knowledge of the purpose of the study as she was given a copy of the questionnaire for piloting reasons and also instructed on how to evaluate the video recordings. Upon completion of the pre-study questionnaire, these nine student teachers received special training on the use of lexical stress patterns for a period of four weeks through interactive materials. Each session lasted about 90 minutes and aimed to teach lexical stress patterns in English through online materials such as electronic

dictionaries and online course materials. The same student teachers also completed a post-study questionnaire which included the same items in the pre-study questionnaire.

3.3 Data Analysis

Data gathered from the pre-questionnaire and post-questionnaire were analyzed using SPSS statistical program. Analysis of data as to both pronunciation instruction received and the background information was based on mean scores (x); namely, "1.0-1.80 (Not at all); 1.81-2.60 (Little); 2.61-3.40 (Average); 3.41-4.0 (Much); 4.01-5.0 (Very Much)" and self-evaluation of competence in pronunciation: "1.0-1.80 (Very poor); 1.81-2.60 (Poor); 2.61-3.40 (Average); 3.41-4.0 (Competent); 4.01-5.0 (Very competent). Participants' views as to the effect of stress allocation training were analyzed qualitatively. In addition, each student microteaching was analyzed according to a pronunciation rubric adapted from Polse (2006: 222): "6-Excellent (Few errors, native-like pronunciation); 5-Very good (One or two errors but communication is mostly clear); 4-Good (Several pronunciation errors, but main ideas are understood without problem); 3-Fair (Noticeable pronunciation errors that occasionally confuse meaning); 2-Weak (Language is marked by pronunciation errors. Listeners' attention is diverted to the errors rather than meaning. Meaning is often unclear); 1-Unacceptable (Too many errors in this task for a student at this level. Communication is impeded).

4. Results

4.1 Pre-service Teachers' Background Knowledge in Pronunciation

36 female and 14 male student teachers completed the pre-study questionnaire. In the pre-study questionnaire the participants all stated that they had studied various elements of pronunciation in a number of courses; namely, Linguistics, Teaching Language Skills, Teaching English to Young Learners, and Oral Communication Skills to some extent. As the mean scores may indicate (Rhythm: 3.06; Sentence stress: 3.24; Word stress: 3.44; Consonants: 3.66; Intonation: 3.62; Vowels: 3.70; Connected speech 3.70.) rhythm, sentential stress and word stress were the least emphasized ones as part of pronunciation in their undergraduate study. In addition, an analysis of pre-service teachers' self-assessment of their competency in various components of pronunciation shows "average" competence in all the components while they were better at producing segmentals such as consonants (x=3.80) and vowels (x=3.72) when compared to such suprasegmentals as connected speech (x=3.52), sentential stress (x=3.42), intonation (x =3.40), word stress (x=3.38), and rhythm (x=3.22).

4.2 Application of Lexical Stress

An analysis of the application of stress patterns in words shows (see Table 2) that the majority of fifty Turkish pre-service teachers who responded to the questionnaire were placing stress pattern correctly in such core vocabulary items as "HUman", "CLImate", and "STUdent", in two syllable words of German origin or kinship terms such as "FAther" and "YELlow", in words of French origin such as "DOCtor", "MANage" (n) and "FOReign" and in one-syllable nouns with suffixes "TEACHer" and "ACTress", but the most problematic ones were with the nouns used as verbs such as "OBject" (n) and "CONvict" (n) and "SISter" as a word of German origin. On the other hand, the results were mixed for the compounds. Concerning the set phrases while the majority correctly placed stress in "the WHITE House", less than half stressed correctly in the compound "HANDout". Placement of stress in descriptions using adjective compounds was also problematic as only 18% of the participants had correct stress placement in "a green HOUSE" and 16% in "a dark ROOM", while more than half got the correct placement in "MIDdle-AGED". For the compound "a BABY'S BOTtle", the majority had it correct while only 28% had it correct for "a GOLD WATCH", which was also a confusing result. In addition, while the majority had correct stress placement in such numbers as "TWENty", "fourTEEN", and "SEVenty-SIX", only 16% had it correct in "FIFtieth". Reflexive was another problematic one as more than half had the incorrect pattern in the reflexive "mySELF". Furthermore, in verbs more than half of the participants came upwith correct answers for most of the verbs such as "comPARE, forGET, perFECT, exPLAIN, perSUADE", and for the phrasal verb "disPENSE with", except for the word "preSENT" and the phrasal verb "LOOK at", which received relatively low correct stress placement.

Table 2: Lexical stress placement: nouns, compounds and verbs

NOUNS	Correct placement of stress pattern
Core vocabulary items	**HU**man (86%), **CLI**mate (84%), **STU**dent (78%)
German origin- kinship terms	**FA**ther (96%), **YEL**low (86%), **SIS**ter" (46%)
French origin nouns	**DOC**tor (84%),**MAN**age (n), (66 %), **FOR**eign (%64)
One-syllable nouns with suffixes	**TEACH**er (76%), **ACT**ress (74%)
Nouns used as verbs	**CON**vict (n) (40%),**OB**ject (n) (36%)
COMPOUNDS	
Adjective compounds (set phrases)	the **WHITE** House (74%), **HAND**out (40%)
Adjective compounds (descriptions)	**MID**dle-**AGED** (58%), a green **HOUSE** (18%), a dark **ROOM** (16%)
Adjective compounds (materials and possessives)	a **BABY'SBOT**tle (78%), a**GOLDWATCH** (28%)
NUMBERS	four**TEEN** (78%), **TWEN**ty (74%), SEVenty-**SIX** (64%), **FIF**tieth (16%)
REFLEXIVES	my**SELF** (42%)
VERBS	com**PARE** (70%), for**GET** (60%), per**FECT** (58%), ex**PLAIN** (58%), per**SUADE** (52%), pre**SENT** (46%)
PHRASAL VERBS (particles functioning as prepositions)	dis**PENSE** with (64%), **LOOK** at (48%)

In terms of words with prefixes unstressed, Table 3 displays that more than half of the participants had it correct for all the words with prefixes such as "proPOSal", "surPRISE", "comPLAINT", "inCREdible", and "aSLEEP", while only 44% had it correct for the verb "overCOME". As for the prefixes stressed, more than half had correct stress placement in "UProar (n)" and less than half had it correct for the word "FORECAST (n)". Concerning suffixes of French origin as in "balLOON", "SudaNESE", "araBESQUE", "casSETTE", "engiNEER", "techNIQUE", "millioNAIRE", and suffixes of Germanic origin as in "exACTly", "exCIting", "HAPpy", and "FRIENDly", more than half of the participants produced correct stress patterns for almost all the words while only the word "FOllowing" received relatively low percentage for correct stress placement. For the words with penultimate stress, the majority had it correct for "exAMiNAtion", "ACadeMICian", and "phoTOgraphy". Such words as "DEMoCRATic", "EcoNOmic", "cliMATic", "ACaDEMic", and "ENerGETic" with penultimate stress were problematic.In addition, the participants had correct placement for most of the words with ante-penultimate stress such as "reALity", "soCIety", "deMOCracy", "ECOLOGical", "aCADemy", and "eCOlogy" while there were some problematic ones as well such as "CRItical", "GEOLOGical" and "acTIvity".

Table 3: Lexical stress placement: prefixes, suffixes, and stress shift

PREFIXES	
Prefixes unstressed	pro**POS**al (88%), sur**PRISE** (70%), com**PLAINT** (62%), inCREdible (60%), a**SLEEP** (54%), over**COME**(v) (44%)
Prefixes stressed	**UP**roar (n) (54%), **FORE**CAST (n) (48%)
SUFFIXES	
Suffixes stressed	bal**LOON** (94%), ara**BESQUE** (64%), Suda**NESE** (62%), cas**SETTE** (62%), engi**NEER** (60%), tech**NIQUE** (60%), millio**NAIRE** (56%)
Suffixes unstressed	ex**ACTly** (90%), **HAP**py (84%), ex**CI**ting (82%), **FRIEND**ly (58%), **FO**llowing (44%)
Penultimate Stress	ex**AMiNA**tion (90%), ACade**MIC**ian (64%), pho**TO**graphy (64%), ENer**GET**ic (46%), ACa**DEM**ic (44%), cli**MAT**ic (40%), Eco**NO**mic (28%), DEMo**CRA**Tic (22%)
Ante-penultimate Stress	re**AL**ity (84%), so**CI**ety (84%), de**MOC**racy (78%), ECO**LOG**ical (68%), a**CAD**emy (64%), e**CO**logy (60%), **CRI**tical (46%), GEO**LOG**ical (44%), ac**TI**vity (26%)

Concerning a number of common problematic words (see Table 4), the majority had correct stress pattern; namely, "BEAUtiful", "LANguage", "PURpose", "corRECT", INterNAtional", "beCAUSE", "comPUter", "toMORrow", "perHAPS", "ENergy", "KNOWledge", "exAMine", "ALways", "INforMAtion", "poLICE", "PREference", "Effort", and "uNIQUE"; however, such words as "SWORD", "muSEum" , "EDuCATE" (v), and "Illustrate" were problematic.

Table 4: Lexical stress placement: problematic words

PROBLEMATIC WORDS	**BEAU**tiful (92%), **LAN**guage (86%) **PUR**pose (84%), cor**RECT** (80%), INter**NA**tional (80%), com**PU**ter (78%), be**CAUSE** (78%), to**MOR**row (74%), per**HAPS** (72%), **EN**ergy (72%), **KNOW**ledge (68%), **AL**ways (66%), INfor**MA**tion (66%), ex**AM**ine (62%), po**LICE** (60%), **PRE**ference (58%), **E**ffort (58%), u**NIQUE** (58%), **SWORD** (40%), mu**SE**um (36%), **ED**uCATE (v) (34%), **Il**lustrate (32%).

4.3 Training Pre-service Teachers in Lexical Stress Patterns

When a group of nine pre-service teachers' use of various elements of pronunciation was analysed by a native speaker of English, the mean average was 3.00 for both "intelligibility" and also "rhythm", for "word stress" it was 3.55 and for sentence stress it was 3.33. Table 5 shows that only one participant (P5) was rated "excellent" in all the categories while another one (P9) was "weak" in all the categories. Three participants were "good" in both word and sentence stress while the other five participants were rated as "fair", "weak" or "unacceptable" in using stress pattern. In terms of "intelligibility", one participant was "excellent", another participant was very "good", three participants were "fair", other three participants were "weak" and one participant was rated as "unacceptable".

Table 5: Native-speaker assessment of pre-service teachers' competency in lexical stress and intelligibility

	P1	P2	P3	P4	P5	P6	P7	P8	P9	Mean (x)	Std. Deviation
Lexical stress	4	3	4	3	6	3	4	3	2	3.55	1.13
Intelligibility	5	3	3	2	6	2	3	1	2	3.00	1.58

Comparison of pre-test and post-test results of the study with these nine participants showed significant increase in all lexical categories (see Table 6) including core vocabulary items such as "HUman", "CLImate"; German origin kinship terms such as "YELlow", "SISter"; French origin nouns such as "DOCtor"; "FOReign"; one-syllable nouns with suffixes such as "ACTress"; "TEACHer"; nouns used as verbs such as "OBject" (n); "CONvict" (n). Only in "STUdent" and "MANage" (n) there was no change between pre and post evaluation scores and in "FAther" all the participants had the correct stress placement. In compounds the difference was also significantly positive: "the WHITE House"; "HANDout"; "a green HOUSE"; "a dark ROOM"; "MIDdle-AGED"; "a GOLD WATCH"; "a BABY'S BOTtle".

Table 6: Comparison of pre-test and post-test results: nouns and compounds

NOUNS		Pre-study %	Post-study %
Core vocabulary items	**HU**man	77.8	100.0
	STUdent	88.9	88.9
	CLImate	66.7	88.9
German origin-kinship terms	**FA**ther	100.0	100.0
	YELlow	33.3	88.9
	SISter	55.6	77.8
French origin nouns	**DOC**tor	77.8	100.0
	MANage (n)	77.8	77.8
	FOReign	33.3	66.7
One-syllable nouns with suffixes	**TEACH**er	77.8	88.9
	ACTress	66.7	77.8
Nouns used as verbs	**CON**vict (n)	22.2	88,9
	OBject (n)	33.3	77.8
COMPOUNDS			
Adjective compounds (set phrases)	the **WHITE** House	88.9	100.0
	HANDout	33.3	77.8
Adjective compounds (descriptions)	a green **HOUSE**	33.3	88.9
	a dark **ROOM**	22.2	77.8
	MIDdle-**AGED**	44.4	55.6
Adjective compounds (materials and possessives)	a **GOLD WATCH**	44.4	100.0
	a **BABY'S BOT**tle	66.7	88.9

As can be seen in Table 7 concerning stress placement in numbers, while only in the word "FIFtieth" the increase level was low, there was significant improvement in "TWENty". The other numbers did not change; namely, "fourTEEN" and "SEVenty-SIX" but the correct placement of stress was already high. On the other hand, in reflexive "mySELF" there was also significant difference. Concerning the verbs and also the phrasal verbs such as "preSENT"; "perSUADE"; "perFECT"; "forGET"; "exPLAIN"; "disPENSE with"; "LOOK at", there was also positive change. However, pre and post results were the same for the verb "comPARE".

Table 7: Comparison of pre-test post-test results: numbers, reflexives and verbs

		Pre-study %	Post-study %
NUMBERS	four**TEEN**	100.0	100.0
	TWENty	44.4	88.9
	SEVenty-**SIX**	88.9	88.9
	FIFtieth	0.00	33.3
REFLEXIVES	my**SELF**	44.4	77.8
VERBS	per**SUADE**	77.8	100.0
	com**PARE**	88.9	88.9
	pre**SENT**	33.3	88.9
	per**FECT**	77.8	88.9
	for**GET**	77.8	88.9
	ex**PLAIN**"	44.4	88.9
PHRASAL VERBS (particles functioning as prepositions)	dis**PENSE** with	66.7	88.9
	LOOK at	33.3	88.9

Concerning most words with prefixes and suffixes, there was also significant increase (see Table 8). In words with prefixes unstressed there was significant improvement; namely, "overCOME (v)"; "aSLEEP"; "inCREdible"; "proPOSal". In "surPRISE" there was no change and the correct stress placement fell from 44.4% to 22.2% in the word "comPLAINT." In addition, in prefixes stressed the success level increased from 11.1% to 66.7% in "FORECAST" (n) but there was no change in the word "UProar" (n). In some words with French origin suffixes the percentages for correct stress allocation decreased; namely, "araBESQUE" and "engiNEER";

whereas in other words there was significant change: "millioNAIRE"; "SudaNESE"; "casSETTE"; and "techNIQUE". In "balLOON" all the participants got the correct placement. In "FOllowing" as a word with a suffix of French origin, there was negative change in stress placement. However, there was significant change in correct placement in such words as "FRIENDly"; "HAPpy"; "exCIting"; and "exACTly".

Table 8: Comparison of pre-test post-test results: prefixes and suffixes

PREFIXES		Pre-study %	Post-study %
Prefixes unstressed	over**COME**(v)	55.6	100.0
	pro**POS**al	88.9	100.0
	sur**PRISE**	88.9	88.9
	a**SLEEP**	44.4	88.9
	in**CRE**dible	33.3	88.9
	com**PLAINT**	44.4	22.2
Prefixes stressed	**FORE**CAST (n)	11.1	66.7
	UProar (n)	33.3	33.3
SUFFIXES			
Suffixes stressed	millio**NAIRE**	66.7	100.0
	Suda**NESE**	88.9	100.0
	bal**LOON**	100.0	100.0
	cas**SETTE**	77.8	88.9
	engi**NEER**	100.0	88.9
	tech**NIQUE**	66.7	88.9
	ara**BESQUE**	100.0	77.8
Suffixes unstressed	**FRIEND**ly	33.3	100.0
	FOllowing	33.3	22.2
	HAPpy	55.6	77.8
	ex**CI**ting	88.9	100.0
	ex**ACT**ly	77.8	88.9

Table 9 displays that concerning penultimate stress, there was significant improvement; namely, "exAMiNAtion"; "phoTOgraphy"; "DEMoCRATic"; "EcoNOmic"; cliMATic"; "ACaDEMic"; "ENerGETic" while there was no change in "ACadeMICian". The participants also improved their stress placement as to ante-penultimate stress: Except for the word "soCIety", there was all positive change: "reALity"; "deMOCracy"; "ECOLOGical"; "aCADemy"; "eCOlogy"; "CRItical"; and "GEOLOGical".

Table 9: Comparison of pre-test post-test results: penultimate and ante-penultimate stress

		Pre-study %	Post-study %
Penultimate Stress	exAMi**NA**tion	77.8	100.0
	cli**MAT**ic	55.6	100.0
	ACade**MIC**ian	88.9	88.9
	pho**TO**graphy	66.7	88.9
	DEMo**CRAT**ic	11.1	66.7
	Eco**NO**mic	22.2	88.9
	ACa**DEM**ic	44.4	88.9
	ENer**GET**ic	44.4	88.9
Ante-penultimate Stress	re**AL**ity	88.9	100.0
	so**CI**ety	100.0	88.9
	de**MOC**racy	66.7	100.0
	ECO**LOG**ical	77.8	88.9
	a**CAD**emy	66.7	100.0
	e**CO**logy	55.6	100.0
	CRItical	22.2	88.9
	GEO**LOG**ical	66.7	77.8

The participants significantly improved their stress placement in most problematic words as can be seen in Table 10. However, there was a slight decrease in correct placement of stress in a number of words such as "beCAUSE"; "corRECT"; "ENergy"; and "LANguage". Correct stress placement was problematic in such words as "muSEum"; "SWORD"; and "Illustrate". The participants all improved their application of stress placement in other problematic words: "KNOWledge"; "comPUter"; "INterNAtional"; "BEAUtiful"; "exAMine"; "INforMAtion"; "PREference"; "Effort"; "uNIQUE"; "EDuCATE" (v); and "acTIvity". There was no change in such words as "poLICE", "ALways", "toMORrow", "PURpose", and "perHAPS".

Table 10: Comparison of pre-test post-test results: stress placement in problematic words

		Pre-study %	Post-study %
Problematic Words	**KNOW**ledge	44.4	88.9
	be**CAUSE**	88.9	77.8
	to**MOR**row	88.9	88.9
	com**PU**ter	77.8	88.9
	INter**NA**tional	55.6	100.0
	PURpose	77.8	77.8
	cor**RECT**	100.0	88.9
	BEAUtiful	88.9	100.0
	per**HAPS**	77.8	77.8
	ENergy	88.9	77.8
	ex**AM**ine	77.8	100.0
	LANguage	100.0	66.7
	po**LICE**	66.7	66.7
	ALways	55.6	55.6
	INfor**MA**tion	66.7	88.9
	PREference	33.3	88.9
	Effort	55.6	66.7
	u**NIQUE**	66.7	88.9
	mu**SE**um	66.7	44.4
	EDuCATE (v)	11.1	33.3
	SWORD	33.3	22.2
	Illustrate	44.4	11.1
	ac**TI**vity	22.2	100.0

5. Discussion

The study findings may show that rhythm, sentence stress, and word stress were the least emphasized components of pronunciation in ELT departments in the Turkish context. Such a finding was in parallel to the competence level of the participants since the study also yielded connected speech, sentential stress, intonation, word stress, and rhythm as relatively weak when compared with the learners' competency in consonants and vowels. In our study all of the nine participants stressed the need to study suprasegmentals as they lacked substantial information in stress allocation in English before the study. Turkish pre-service teachers of English had major problems in stress allocation due to the nature of Turkish or possibly lack of attention to suprasegmentals as part of pronunciation instruction. A certain number of pre-service teachers of English had problems with all types of stress patterns, particularly with penultimate and ante-penultimate stress patterns. Since a substantial number of Turkish pre-service teachers of English were poor in their application of stress patterns of all types, transferring such poor pronunciation ability to students in English as a Foreign Language (EFL) programs would result in unintelligible English on the part of learners as well. Low level of correct stress allocation in compounds, in nouns used as verbs, in reflexives, in ordinal numbers, in penultimate stress and ante-penultimate stress may be alarming for future EFL instruction since such a picture might be common in similar ELT programs as well. This study may also show that Turkish teachers of English need training in prosodic features including stress patterns in English in addition to "sounds, nuclear stress, and articulatory setting" as Jenkins (1998, p.125) puts forward.

Further, the present study may indicate that teachers as well as learners of English with a syllable-timed native language like Turkish need to receive special education in stress pattern in English. As each syllable receives a similar amount of time and stress in Turkish unlike English, Turkish speakers of English are likely to spare similar time to each syllable in English, thereby producing artificial English, sending incorrect messages or causing possible misunderstanding on the part of interlocutors. Therefore, pre-service teachers of English need to learn to focus on stressed syllables, applying correct stress allocation in words and sentences as in stress-timed languages (Avery & Ehrlich, 1992) Our particular study might prove that problems in allocating correct stress can be minimized through a comprehensive study on the practice of common stress patterns in English through systematic training in lexicals during their undergraduate studies similar to the studies conducted by Seferoğlu (2005) and Hismanoglu and Hismanoglu (2011). Such a result is also supported by other research studies conducted in international settings. AbuSeileek (2007) favors pronunciation instruction since such an application improves EFL learners' understanding and also production of correct stress patterns applied in words, phrases, and sentences. The results of an MA study conducted by Fischler (2005) also indicate positivegains in stressplacement in words and sentences after a four-week pronunciation study as well as increase in learners' confidence in communication.

Similarly, when the participants in our study received training on stress patterns, they made significant improvement in placing lexical stress. Before the study the participants' allocation of stress differed while the majority lacked substantial knowledge in lexical stress patterns as assessed by a native speaker. As the mean average for nine participants was 3.00, which meant average and also indicated more study on the part of prospective teachers. However, comparison of pre-test and post-test results of the study with nine participants may indicate significant increase in all the categories of lexical stress. This particular study may therefore prove the positive contribution of such a particular training in learning how to use correct stress patterns in words. This study may show that the participants, prospective teachers of English, in this study lack substantial knowledge in stress allocation but the same study also proves that they can overcome such deficiency once offered sound knowledge and given ample practice on the way to achieve intelligibility in English.

6. Conclusion

In EFL settings like the Turkish one, communication with other native or non-native speakers might be arduous due to poor pronunciation, particularly faulty production of sounds and also improper use of stress, intonation, rhythm, or connected speech. Stress allocation in words might be one of the major hassles in non-native settings with syllable-time languages like Turkish. However, pre-service teachers of English can achieve such a competency if provided with opportunities as this particular study may show. This study is not devoid of limitations. The study could have produced more reliable findings if all the fifty pre-service teachers who responded to the pre-questionnaire had taken part in the experimental part of the study and also the training sessions with nine pre-service teachers continued longer. However, the experimental study with only nine pre-service teachers and for a period of four weeks set a good sample for how other future applications as to stress patterns study can be integrated into pre-service ELT programs.

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