Research Article

AN INVESTIGATION INTO EFL LEARNERS' RECOGNITION AND PRODUCTION OF ENGLISH LEXICAL STRESS

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ABSTRACT

Assigning stress in English words accurately is considered a challenging task for Vietnamese EFL learners because their first language (L1) does not possess a system of word stress. The study is aimed to investigate the extent to which Vietnamese learners are able to recognize and produce English lexical stress correctly. To further explore the topic, the study examines whether there is a significant difference in the performance of EFL learners on the recognition and production of lexical stress. To achieve these objectives, 40 elementary EFL learners studying English to prepare for the English proficiency test of pre-intermediate level at a foreign language center in Can Tho city participated in the study. Data were collected by means of a recognition test and a production test. The results showed that learners were highly competent in recognizing English lexical stress, whereas their ability to produce this subset of pronunciation is limited. The possible causes for this discrepancy were their unsuccessful production of stress contrast between secondary stress and primary stress, the effect of stress patterns, their unintelligible production of words and the interference from L1.

Keywords: lexical stress, recognition, production

INTRODUCTION

It is a truism that many EFL learners consider pronunciation as an aspect of language that is difficult to acquire (Gilakjani, 2012; Vafaei et al., 2013; Huwari & Mehawesh, 2015). Problems in pronunciation can be attributed to difficulties in learning segmental (e.g., consonants and vowels) and suprasegmental features of speech (e.g., stress, intonation, pausing and rhythm). Although a large body of studies have been conducted on the segmental level, recent research has stressed the importance of suprasegmentals at the expense of

segmentals in the acquisition of prosody in a second language (McNerney & Mendelsohn, 1992; Derwing & Wiebe, 1998; Derwing & Rossiter, 2002). In addition, suprasegmentals are assumed to affect oral communication in terms of intelligibility and comprehensibility more significantly than other elements of pronunciation (Kanoksilapatham, 2010).

With respect to difficulties in pronunciation that plenty of EFL learners encounter, the placement of lexical stress is one of the contributing factors. In fact, EFL learners often face challenges in producing words in the target language with correct primary stress (Karjo, 2016). By and large, lexical stress misplacement decidedly has a negative impact on learners' intelligibility of pronunciation and their perception skills. As such, errors of lexical stress may lead to communication breakdown. According to Aungcharoen (2006), producing understandable speech is of paramount importance in enhancing oral communication. To this end, one of the requirements is that non-native speakers of English need to stress words on right syllables. This is because, in addition to sounds, stress is an essential part of the acoustic identity of a word spoken in isolation (Underhill, 1994; Mekhoukh, 2010). In other words, stress has a vital role to play in knowing how to properly produce words in the English language.

In Vietnam, from an overall perspective, committing errors in relation to primary stress placement is one common problem of pronunciation encountered by many Vietnamese learners of English. Such a problem may be resulted from various sources, one of which could be the effects of the mother tongue. This is because Vietnamese language has no system of word stress (Nguyen & Ingram, 2005). Furthermore, with English being a foreign language in Vietnam, Vietnamese learners have not much opportunity to surround themselves with the target language input. This lack of exposure to English may be another reason behind the mentioned problem. Additionally, in Vietnam, pronunciation is not a mainstream concern but a less focused area in English classes. That is, many teachers do not pay enough attention to teaching pronunciation in their classes, resulting in the instruction of stress patterns being also neglected. As far as EFL learners are concerned, An (2010) stated that albeit the importance of English lexical stress in pronunciation, it is not sufficiently acquired. The aforementioned factors possibly lead to frequently incorrect use of stress at the word level among Vietnamese learners, especially those studying at the secondary school level.

Literature Review

Definitions

Various accumulations of lexical stress definitions will be cast light on in this section, as a prerequisite for better understanding other terminologies used in this paper. As a whole, a certain degree of consensus on the definitions of lexical stress has been reached among scholars and researchers in the domain of linguistics, as will now be presented.

Lexical stress, also called word stress, is one of the suprasegmental features of speech. It is defined as the emphasis that is placed on a certain syllable within a word, and it is a more or less unchangeable feature of that word when produced separately. (Aungcharoen, 2006; Altmann, 2006; Almbark, et al., 2014). More specifically, lexical stress is a culminative property which is characterized by at least four acoustic features: fundamental frequency, duration, amplitude and vowel quality (McMahon, 2002; Lai, 2008; Zhang et al., 2008). In multisyllabic words, there is one stressed syllable and at least one unstressed syllable. According to Kavin (2005), a stressed syllable is one that is picked out and assigned metrical prominence; that is, it is produced with greater respiratory energy in comparison with an unstressed one. With respect to unstressed syllables, they evince to consist of unstressed vowels; however, in most cases, these vowels are reduced to schwa sounds that are known as lax and not articulated with much energy. From the viewpoint of speech perception, Arciuli & Colombo (2016) proposed another definition of lexical stress that it is "the prosodic contrast between strong and weak syllables within single words".

Based on the aforementioned definitions of lexical stress, the researcher proposes a working definition used for the current study that lexical stress is a linguistic property whose primary function is to make a particular syllable more prominent than the rest. This means that prominence is a common characteristic of all stressed syllables in isolated words. Roach (1991) contends that prominence is marked by four different factors, and they are of different levels of importance: pitch, vowel duration, loudness and quality. He also represents that, as shown by empirical evidence, pitch has the strongest effect on prominence, followed closely by vowel duration. Meanwhile, the other two factors, namely loudness and quality cause much less effect. Although these parameters work together in combination, one or two of them can also make one syllable prominent or perceptually salient and be heard as stressed accordingly.

Lexical Stress Patterns in English

In English, the position of lexical stress is difficult to predict, and the number of syllables cannot be made use of to determine the placement of stress (Hismanoglu, 2012; Vafaei et al., 2013). This indicates that primary stress can be assigned to any syllable in multisyllabic words. For example, the words "newspaper", "museum" and "engineer" are stressed on the first, the second and the third syllables, respectively. Nevertheless, Kreidler (1997) shows that although English lexical stress is not fixed, it is still predictable in a large number of words. He also states that in order to decide on the position of stress in words, the following information is necessarily taken into account: "the form class (noun, verb, adjective, etc.) of a word", "the number of syllables in a word", "the distinction between strong syllables and weak syllables", and "the recognition of certain specific prefixes and, especially, suffixes"

Pertaining to stress position in English words, it can be on the final syllable (i.e., the ult), the second syllable from the end (i.e., the penult), the third syllable from the end (i.e., the antepenult) and the fourth syllable from the end (the pre-antepenult) (Kreidler, 1997). It is obvious that the two latter positions must occur in words which have at least three and four syllables, respectively.

In some longer words, especially when spoken in isolation, there exist two prominent syllables with different degrees of stress (Underhill, 1994; Ladefoged & Johnson, 2010). They are called primary and secondary stress, with the latter being relatively less prominent than the former. For example, the word "engineer" has primary and secondary stress falling on the final and the initial syllables, respectively. It is clear that secondary stress is produced with less energy as opposed to its primary stress counterpart, but the distinction between these two types of stress is mainly made based on the acoustic cue of pitch (Underhill, 1994). Therefore, pitch will be considered as a key parameter used to distinguish between EFL learners' production of lexical secondary and primary stress.

Many words can function as both nouns and verbs in English. For each noun-verb pair, their spellings are identical, but their stress patterns are different from each other. Besides, they change their meanings depending on the position of stress. For two-syllable words in this type, there is a strong tendency to stress nouns on the first syllable and to stress verbs on the second syllable. For example, the word "permit" is stressed on the initial syllable when it is a noun and is stressed on the final syllable when it is a verb.

Contrastive Analysis of English Lexical Stress and Vietnamese Tones

The prosodic features of Vietnamese are different from those of English (Nguyen, 2003), resulting in Vietnamese learners often face challenges producing English stress. More specifically, English is a stress language, whereas Vietnamese is a tonal one which has no system of culminative word stress but a system of six lexically distinctive tones in which pitch changes are employed to contrast different words (Nguyen & Ingram, 2005) (Six tones are used in Northern Vietnamese, with the Central and South having 5 tones). Due to the differences between lexical stress and tones, the two languages differ from one another in respect of how acoustic correlates are manipulated in prosody at the word level (Nguyen et al., 2007), which can be summarized in the table below.

Table 1 The Differences in the Manipulation of Acoustic Cues for Tones in Vietnamese and Stress and English

	F0	Intensity	Duration	Vowel quality
Tone in Vietnamese	Yes	No	No	No
Stress in English	Yes	Yes	Yes	Yes

As seen from the table above, “stress accent differs phonetically from non-stress accent in that it uses to a greater extent material other than pitch” (Beckman, 1986 as cited in Nguyen, 2003). More specifically, in addition to fundamental frequency, English employs other acoustic correlates, such as intensity and duration for stress production. On the contrary, Vietnamese tones are distinguished mainly based on the direction of “pitch movement”, “pitch high” and “voice quality” (Nguyen et al., 2007)

In addition, Vietnamese differs from English in that it is a monosyllabic language, with each syllable containing three elements, namely “the initial consonant singleton”, “the rhyme”, and “the tone” (Tweedy, 2012). Such a monosyllabic nature is likely to cause obstacles for Vietnamese speakers of English when producing lexical stress because it only occurs in multisyllabic words. Swan & Smith (1990) describes that “being monosyllabic and tonal, Vietnamese is unable to express by tone, as in English, because this would affect existing syllabic tone.”. Owing to this linguistic behaviour, in general, Vietnamese learners often have strong accents when they speak English as a foreign language.

The last contrastive point to be discussed is that Vietnamese and English are two representatives of syllable-timed and stress-timed languages. It is true that the latter has a more variety of syllable types than the latter. As a consequence, there is a tendency for English to have heavier syllables compared to Vietnamese. This feature corresponds with the fact that lexical stress in English tend to fall on heavier syllables, while pitch and syllable weight exist independently in Vietnamese (Dauer, 1983 as cited in Nguyen, 2003).

Lexical Stress Recognition and Production

In this study, lexical stress recognition refers to the ability to recognize which syllable of a multisyllabic word has primary stress. With respect to lexical stress production, it is the ability to produce stressed syllables with greater prominence compared to unstressed counterparts.

It is agreed that there is a relationship between the ability to recognize stress patterns and the ability to produce those same stress patterns in the sense that learners who have strong skills of lexical stress production also have strong lexical stress recognition skills. However, whether there is a correlation between the two variables is a matter of controversy. Watanapokakul (2010) concluded in her study that those who were good at identifying lexical stress patterns were also good at producing words with correct stress.

Relevant Studies

A large body of research investigated EFL learners' ability to produce English lexical stress, whereas studies related to EFL learners' recognition of English lexical stress have been humbly conducted. The following section will be devoted to presenting some relevant studies on EFL learners' recognition and production of lexical stress in turn.

Studies on EFL Learners' Recognition of English Lexical Stress

The first study to be reviewed is one done by Khamkhiem (2010). The purposes of the study were twofold: (1) to explore Thai learners' ability to assign stress in English words and (2) to examine possible factors affecting their pronunciation competence in relation to word stress assignment. The data collected through a questionnaire and a recognition test. The questionnaire was used for eliciting the participants' personal information, including gender, faculty and years of studying English. Regarding the recognition test, it was comprised of 40 words with reference to the participants' majors. In the result, the level of the learners' performance on the word stress placement test was not satisfactory. The findings also showed that gender was identified as a factor contributing

to the participants' test scores, while the opposite was true of the other two factors, namely faculty and years of studying English.

Amer & Amer (2011) study reported on an investigation into the extent to which explicit instruction on English lexical stress affected EFL learners' performance on lexical stress recognition. A total of 80 Palestinian university students participated in the study, and they were at the intermediate and pre-intermediate levels of English proficiency. These participants were randomly arranged in two equivalent groups, with 40 students in each: an experimental group and a control group. Of the two groups, only the former received 3 weeks of pronunciation instruction in relation to lexical stress identification. Two main instruments utilized for the data collection were a post test and a pre-test, with each consisting of 30 multisyllabic words. The results manifested that the progress on both groups' ability to assign lexical stress patterns was recorded. However, the level of the experimental group's knowledge of lexical stress was significantly higher than that of their control counterpart thanks to the intervention.

Studies on EFL Learners' Production of English Lexical Stress

In 2003, Vafaei et al. conducted a study within the milieu of Jouya English institute in Tehran so as to explore the stress pattern of 30 Iranian English language learners' pronunciation. 80 multisyllabic words selected as a production test were used to measure the participants' ability to pronounce English words with reference to stress patterns. The target words were divided into four groups based on the number of syllables and the location of stress. In detail, the first group included 20 two-syllable words with stress falling on the first syllable, and the second group was made of 20 two-syllable words in which stress was on the final syllable. The third and fourth groups consisted of 20 three-syllable words having stress on the first syllable and 20 three-syllable words having stress on the second syllable, respectively. The study was concluded that the participants scored significantly higher on words with stress on the first syllable than on the second syllable.

Conducted with an experimental approach, Hismanoglu (2012) study is aimed to discover the effects of an internet-based pronunciation lesson on EFL learners' production of stressed syllables in English words. The participants were 30 freshmen selected randomly from the English language teaching department of Akdeniz university. These participants were divided into two groups: a control group and an experimental group, with 15 members in each. Both groups of participants took a pre-test with a

list of 49 English words. Subsequently, the experimental group was exposed to a two-hour internet-assisted pronunciation lesson, whereas the control group received no such an intervention. The findings revealed that the experimental group outperformed their control counterpart in the final test in which they were required to produce the same list of words in the pre-test. The researcher also pointed out that the highest percentage of participants (58%) faced difficulties in producing stress on the ante-penultimate syllable and on compound adjectives.

Implementing a study with 20 undergraduate students of Language and Arts from a Brazilian federal university, Brawerman-Albini & Becker (2014) strived to investigate these participants' production of English word stress. The data were collected by means of a production test. The stimuli were 40 words stressed on pre-antepenultimate syllables, which is regarded as an extremely rare pattern in the participants' L1. Besides, 20 words with different stress patterns were used as distracters. The findings manifested that the number of incorrect answers was much greater than that of correct ones, showing that the participants lacked competence in producing words having stress on the pre-antepenult.

Comments on the Aforementioned Studies

The studies noted above presents an overview of the ability to recognize and produce English lexical stress of EFL learners with different backgrounds. Referring to empirical evidence on EFL learners' recognition of lexical stress, but for a small number of test items, Khamkhien (2010) study would have generalized Thai learners' performance on lexical stress identification. The same issue is recorded in the experimental study of Amer & Amer (2011). Moreover, the intervention to which the participants were exposed in M. Moshher Amer & Walid M. Amer's research lasted for a short period of time, so the reliability and validity of the findings are questionable. Moving on studies documenting EFL learners' ability to produce lexical stress, different studies show different results in relation to problems that EFL learners encountered in their production of word-level stress. For instance, Iranian learners in Vafaei et al. (2003) study found it difficult to produce words having stress on second syllables, whereas Brazilian learners participating in Brawerman-Albini & Becker (2014) study faced challenges producing words with stress falling on the pre-antepenult. In relation to Hismanoglu (2012) experimental study, the

treatment was conducted in only one lesson before the researcher came to a conclusion that musically-stimulated patterns showed positive effects on EFL learners' production of lexical stress. In addition, only a modest sample of learners took part in the study. From scientific perspectives, these circumstances make this study not convincing enough.

Justification of the Study

As mentioned above, despite the fact that much research around the world has been done to explore the production of lexical stress by EFL learners. Nevertheless, to the best of the researcher's knowledge, very few studies conducted to provide valuable insights into EFL learners' knowledge with regard to lexical stress recognition. Furthermore, the relationship between EFL learners' ability to recognize stress patterns of English words and their ability to produce them is still under discussion, and there is not much empirical evidence shedding light on this issue. Therefore, there should be more research implemented to end this controversy. Noticeably, within the Vietnamese context, research on EFL learners' recognition and production of lexical stress is humbly conducted. Therefore, to fill these gaps, the present study targets at exploring EFL learners' ability to recognize and produce lexical stress from a Vietnamese context and to investigate if there is any significant difference between EFL learners' understanding and actual performance of lexical stress. The present study attempts to address the following questions:

What is the level of EFL learners' competence in relation to English lexical stress recognition?

To what extent are EFL learners able to produce English lexical stress properly?

Is there any significant difference in the performance of EFL learners in recognizing and producing English lexical stress?

METHODOLOGY

Research Design

The study was designed as a descriptive one that follows both quantitative and qualitative approaches. The quantitative data were collected through two tests, whereby the qualitative data were also obtained as the researcher further explored what stress patterns in multisyllabic words and what words whose stress patterns are difficult for EFL learners under study to recognize and produce.

Participants

A total of 40 elementary EFL learners who were following an English course to prepare for the English proficiency test of pre-intermediate level at a foreign language

center in Can Tho city participated in the study, with 16 males (40%) and 24 females (60%). These participants are ideal for the study because the homogeneity of their English proficiency contributes positively to the study, allowing certain generalizations to be made with a high level of guarantee. These participants' ages ranged from 18 to 22 years old. All of them had learnt English for at least 6 years and had never taken part in any English phonetics classes when this study was Instruments

Word Selection

The target words used for the tests were selected from the book entitled "Objective KET" (student's book, second edition), a KET vocabulary list and the BULATS A2 wordlist. The main criterion for choosing the words from these sources is that they were suitable to the participants' current language level. Noticeably, "Objective KET" was their main course book when they studied in the Elementary English classes. With the number of syllables being taken into consideration, all the multisyllabic words in the sources are divided into four main groups: (1) two-syllable words, (2) three-syllable words, (3) four-syllable words and (4) five-syllable words. Of the four groups, two- syllable words are the most frequent, followed by three-syllable words, four-syllable words and subsequently five-syllable words. Due to the infrequent use of five-syllable words in these sources, this group will not be tested.

Based on the placement of stress, 20, 30 and 30 words were randomly selected to represent the three groups of two-syllable, three-syllable and four-syllable word categories, respectively. Therefore, a list of 80 words will be compiled (see appendix). More specifically, in the group of two-syllable words, there were 10 words stressed on the ult and 10 words stressed on the penult. With respect to the group of three-syllable words, there were 10 words having stress on the ult, 10 words having stress on the penult and 10 words in which stress falling on the antepenult. In regards to the four-syllable-word group, there were an equal number of words stressed on the penult, the antepenult and the pre-antepenult. Owing to the fact that the researcher could not find out any four-syllable words that have stress on the ult in the sources, this pattern of stress was not included in the tests. Another reason for this exclusion is that Clopper (2002) analysis of the frequency of stress patterns in English words show that, in four-syllable words, stress on the ult is the least frequent pattern. Thus, it is particularly difficult for EFL learners to pronounce this stress pattern, especially those who are at the elementary level. Upon

the compilation of the word list, the researcher also asked three experienced teachers for their comments on it.

Lexical Stress Recognition and Production Tests

The recognition test was administered to the participants before the production test, in which they were required to identify the stressed syllable in each target word and transferred their answer immediately to an answer sheet that was specially designed by the researcher. All the participants sat the test in two separate rooms at the same time, with 20 in each, to ensure that the test was taken in the same condition. The researcher and his colleague were invigilators for this test. The test lasted for 30 minutes. To prevent students from remembering stress patterns from the recognition test, the participants were required to take the production test individually one week after the recognition test. They were asked to read the same list of words, and their readings were recorded with a digital voice recorder in a sound-proof room at the center. Recording all the participants' production of lexical stress in one meeting is too demanding, so the researcher divided them into two smaller groups. Each group was recorded in a particular period of time. When it was time to begin the test, the participants had two minutes to prepare for reading the words. They were also asked to put a pause between two words and produce each word as carefully as they could. The approximate duration of each test was 10 minutes.

Data Analyses

In order to analyze the participants' performance of the recognition test, the researcher scored each test manually, with 1 point being assigned to a correct answer and 0 point being given to an incorrect one. As to the production test, the participants' recordings were analyzed by using Praat (the 32-pitch edition), a speech analysis software. It is regarded as being appropriate to the purpose of the study because it can graphically display the pitch height and vowel duration of each syllable. In addition, the recordings can be played on this software, a condition that is convenient to check the prominence of stressed syllables. In terms of scoring, participants who read a word with correct primary stress and intelligible pronunciation obtained 1 point. Those who read a word with incorrect primary stress, correct primary stress and unintelligible pronunciation or equal stress on two or more syllables received 0 point.

The data obtained from the two tests were analyzed by using the SPSS software to evaluate the participants' knowledge and production of English lexical stress. The

maximum score of each test is 80 (100%), which is equivalent to 80 test items. In order to identify the extent to which the participants are able to recognize and produce stress patterns in English words correctly, the researcher adapted Abuseileek (2007) 5-poin-Likert type scale of competence in lexical stress assignment, as specified below.

Table 2 Levels of Competence in Lexical Stress Assignment

Percentage	Levels of competence in lexical stress assignment
90% - 100%	full competence
70% - 80%	high competence
50% - 60%	partial competence
30% - 40%	very limited competence
10% - 20%	no competence

RESEARCH RESULTS AND DISCUSSION

Research Results

Research question. What is the level of EFL learners' competence with regard to English lexical stress recognition?

The descriptive statistics of the test scores from the recognition showed that the mean score was 57.80 which was equal to 72.25%. More specifically, the highest score was 68, and the lowest score was 49. The SD value was 4.15. Based on these results, it can be concluded that the participants were at the level of high competence in recognizing stress patterns in English words. Classified according to the number of syllables, the participants' responses from the recognition test are briefly presented in the tables below.

Table 3 Mean Scores of the Participants' Recognition of Stress in Two-syllable Words

	N	Mean	SD
Two-syllable words with stress on the penult	40	34.30	12.12
Two-syllable words with stress on the ult	40	31.90	6.52

Table 4 Two-syllable Words whose Stress Patterns Difficult for the Participants to Recognize

	N	Correct lexical stress recognition
guitar	40	19 (47.5%)
sometimes	40	0 (0%)

Table 3 illustrates that the participants did not have much difficulty assigning stress in two-syllable words as they obtained high mean scores in the test. By comparison, they recognized two-syllable words in which stress falls on the penult slightly better than two-syllable words which have stress on the ult because the mean score of the former was 34.30, whereas that of the latter was 31.90. According to table 4, surprising as it may seem, all the participants did not assign stress correctly in the word "sometimes", a very frequently used word in English. Additionally, only 47.5% of the participants were able to recognize stress in the words "guitar".

Table 5 Mean Scores of the Participants' Recognition of Stress in Three-syllable Words

	N	Mean	SD
Three-syllable words with stress on the antepenult	40	33.80	6.75
Three-syllable words with stress on the penult	40	37.30	4.03
Three-syllable words with stress on the ult	40	12.00	7.93

Table 6 Three-syllable Words whose Stress Patterns Difficult for the Participants to Recognize

Words	N	Correct lexical stress recognition	Words	N	Correct lexical stress recognition
afternoon	40	9 (22.5%)	lemonade	40	3 (7.5%)
disagree	40	19 (47.5%)	magazine	40	8 (20%)
employee	40	12 (30%)	teenager	40	17 (42.5%)
engineer	40	19 (47.5%)	underground	40	1 (2.5%)
Japanese	40	18 (45%)	understand	40	6 (15%)

As seen from Table 5, the participants were more able to recognize three-syllable words whose stress is on the penult in comparison to three syllable words having stress on the antepenult and on the ult. It is also noted that in three-syllable words, stress on the ult was the most problematic pattern to the participants as their mean score of correctly identifying this stress pattern was 12.00. As for words which cause difficulty for the participants to recognise their stress patterns, Table 6 displays that the words "underground" and "lemonade" ranked first and second in turn, with the figures for the

former being 2.5% and the latter being 7.5%, followed closely by the word “understand”. Besides, considerably low percentages of participants, i.e. between 5% and 10%, could identify stress accurately in the three words “afternoon”, “magazine” and “understand”.

Table 7 Mean Scores of the Participants’ Recognition of Stress in Four-syllable Words

	N	Mean	SD
Four-syllable words with stress on the pre-antepenult	40	18.10	7.26
Four-syllable words with stress on the antepenult	40	33.70	11.24
Four-syllable words with stress on the penult	40	30.10	9.56

Table 8 Four-syllable Words whose Stress Difficult for the Participants to Recognize

Words	N	Incorrect lexical stress recognition
advertisement	40	2 (5%)
centimetre	40	14 (35%)
comfortable	40	16 (40%)
definitely	40	18 (45%)
economic	40	18 (45%)
electronic	40	10 (25%)
helicopter	40	12 (30%)
motorcycle	40	10 (25%)
necessary	40	17 (42.5%)
photocopy	40	16 (40%)
supermarket	40	19 (47.5%)

Table 7 shows that the participants found it most challenging to recognize four-syllable words with stress on the pre-antepenult, with their mean score being 18.10. Noticeably, the mean score from the recognition of four-syllable words with stress on the antepenult (33.70) is slightly higher than that of those having stress on the penult (30.10). It is clear from Table 8 that a very small minority of the participants (5%) could recognize stress pattern of the word “advertisement” correctly; the majority tended to locate stress on the penultimate syllable, which is a wrong pattern. Another two words whose stress patterns were placed correctly by the second lowest percentage of the sample (25%) were “electronic” and “motorcycle”.

Research question 2. To what extent are EFL learners able to produce English exical stress properly?

According to the results of the participants’ performance on the production test, the mean score was 50.13 which is equivalent to 62.66%. The highest and lowest scores gained from this test were 41 and 58, respectively, and the SD value was 4.70. As observed in the five-degree scale of

competence, the participants were classified as partially competent in producing English lexical stress. This circumstance is obviously undesirable for these participants at a time when all the test items were considered as relevant to their current language level and familiar to them. The following tables provide a clearer picture of the participants' test scores.

Table 9 Mean Scores of the Participants' Production of Stress in Four-syllable Words

	N	Mean	SD
Two-syllable words with stress on the penult	40	34.00	12.24
Two-syllable words with stress on the ult	40	31.80	10.00

Table 10 Two-syllable Words whose Stress Patterns are Difficult for the Participants to Produce

	N	Correct lexical stress production
guitar	40	12 (30%)
machine	40	18 (45%)
sometimes	40	0 (0%)

As Table 9 shows, the participants' mean score for their production of two-syllable words with stress on the ult was nearly as high as that gained from their production of two-syllable words in which stress falls on the penult, with 31.80 as opposed to 34.00 for the latter. This means that there was just a small difference in their performance on producing these two stress patterns in two-syllable words. Like the recognition test, it is clear from Table 10 that all the participants failed to produce stress in the word "sometimes"; that is, they were not aware that the correct stress pattern is on the penultimate syllable. As to the word "guitar", it was pronounced correctly in terms of stress by just a modest percentage the participants, at 30%.

Table 11 Mean Scores of the Participants' Production of Stress in Three-syllable Words

	N	Mean	SD
Three-syllable words with stress on the antepenult	40	29.20	7.41
Three-syllable words with stress on the penult	40	33.10	8.79
Three-syllable words with stress on the ult	40	6.20	6.16

Table 12 Three-syllable Words whose Stress Patterns Difficult for the Participants to Produce

Words	N	Correct lexical stress production	Words	N	Correct lexical stress production
afternoon	40	2 (5%)	magazine	40	7 (17.5%)
disagree	40	16 (40%)	musician	40	18 (45%)
employee	40	0 (0%)	seventeen	40	13 (32.5%)
engineer	40	7 (17.5%)	teenager	40	12 (30%)
Japanese	40	14 (35%)	underground	40	1 (2.5%)
lemonade	40	1 (2.5%)	understand	40	1(2.5%)

It can be seen from Table 11 that the participants were best at producing three-syllable words whose stress is on the penult, whereas the opposite was true of three-syllable words having stress on the ult, with the mean scores of 33.10 and 6.20, respectively. The second highest mean score stood at 29.20, which they obtained from producing those having stress on the antepenult. With respect to three-syllable words whose stress patterns are difficult for the participants to produce, the word “employee” came top in the list. It was followed closely by the words “lemonade”, “underground”, “understand” and then “afternoon”, with the figures for the first three words being 2.5% each and the last one being 5%.

Table 13 Mean Scores of the Participants’ Production of Stress in Four-syllable Words

	N	Mean	SD
Four-syllable words with stress on the pre-antepenult	40	7.50	10.67
Four-syllable words with stress on the antepenult	40	32.80	10.97
Four-syllable words with stress on the penult	40	25.90	11.85

Table 14 Four-syllable Words whose Stress Patterns Difficult for the Participants to Produce

Words	N	Correct lexical stress production	Words	N	Correct lexical stress production
advertisement	40	2 (5%)	mathematics	40	14 (35%)
centimetre	40	5 (12.5%)	motorcycle	40	3 (7.5%
comfortable	40	8 (20%)	necessary	40	1(2.5%)
definitely	40	13 (32.5%)	photocopy	40	3 (7.5%)
economic	40	12 (30%)	supermarket	40	2 (5%)
electronic	40	5 (12.5%)	supervisor	40	1 (2.5%)
helicopter	40	3 (7.5%)			

From Table 13, it is clear that the participants found it not very difficult to produce four-syllable words in which the antepenultimate syllables receive stress, while they faced challenges producing four-syllable words with stress on the pre-antepenult. This is because the mean scores for their production of these two stress patterns were 32.80 and 7.50 in turn. Besides, in producing four-syllable words with stress on the penult, they had the quite high mean score of 25.90. Referring to the information represented in Table 14, almost no participants were able to produce stress in the words “necessary” and “supervisor”, and only 2% of the participants could pronounce stress in the words “advertisement” and “supermarket”. It is also noticeable that the participants had difficulty pronouncing stress in other words, such as “helicopter”, “motorcycle” and “photocopy”.

Research question 3. Is there any significant difference in the performance of EFL learners in recognizing and producing English lexical stress?

Drawing on the participants’ test scores, they performed the recognition task better than the production task because their mean score for the former (57. 80) was higher than that for the latter (50.13). Also, as mentioned earlier, the participants were identified as highly competent in recognizing lexical stress, while their ability to produce of this subset of pronunciation was at the level of partial competence. This indicated that there was a clear difference in the performance of the participants on the two tests. Figure 1 below reports a more detailed description of

the participants' mean scores gained from the two tests, categorized by two-syllable, three-syllable and four-syllable words.

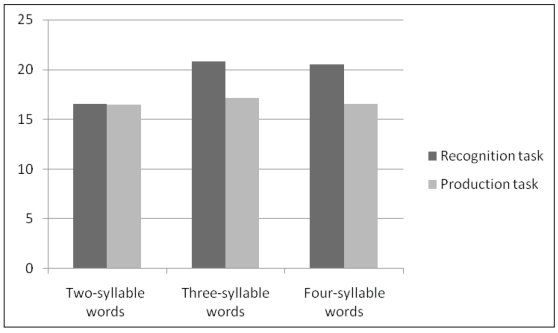


Figure 1 The maximum score of the first category (Two-syllable words) that the participants could obtain was 20, whereas it was 30 in the categories 2 and 3 (Three-syllable and four-syllable words, respectively).

As seen from Figure 1, for two-syllable words, the participants performed on the recognition task marginally better than on the production task. However, there were considerable differences in the performance of the participants on words with three and four syllables, with the mean scores of the production test being observed to be lower than those of the recognition test in these categories.

Discussion

As the findings of this study show, the participants' ability to produce stress patterns in English words was not satisfactory, although they got a high level of competence in recognizing such a suprasegmental feature of speech. This inconsistency is likely to be attributed to several factors. To begin with, the participants tended to overstress in words having secondary stress and primary stress, such as "engineer", "magazine", "seventeen", "underground','understand", "centimeter", "helicopter", "photocopy", "supermarket" and "supervisor". This means that even if they could identify the stress patterns in the mentioned words, they had a tendency to produce secondary stress and primary stress in these words with the same pitch, duration and loudness. Another reason behind EFL learners' inability to use their knowledge of lexical stress in their production task is the difficulty of pronunciation in regards to stress patterns. In fact, there are particular patterns of lexical stress that may cause troubles for EFL learners to pronounce even though they have the knowledge of which syllable is stressed. Therefore, the EFL researchers emphasizes that without regular practice, they are unlikely to succeed in producing English words with clear stress contrasts. In particular, it is observed that three-syllable with stress on the ult and four–syllable words with stress on the pre-antepenult presented great difficulty for the participants to pronounce. As a result, they produced these words without any stress being

recorded. The next contributory factor is that there were words being pronounced unintelligibly by the participants. As such, their pronunciation, whether with correct or incorrect lexical stress, was judged as inaccurate and assigned 0 point. Apart from the influence of stress patterns, the last reason to be discussed is the effect of the participants' L1. Given Vietnamese as a tonal and monosyllabic language, Vietnamese speakers tend to give full pronunciation values to all syllables, indicating in this sense that they read out English words with the same pitch, duration and loudness for all the syllables. Meanwhile, these parameters obviously affect the quality of stress produced by learners. This undisputedly causes their failure to produce stress contrasts between stressed and unstressed syllables, which means that they tend to "stress syllables in English more equally, without giving sufficient stress to the main words and without sufficiently reducing unstressed syllables". As a whole, due to the aforementioned factors, the participants had more incorrect responses from the production test than the recognition test, resulting in the observed discrepancy.

In conclusion, it is agreed that lexical stress is an important area of pronunciation, which EFL learners should pay attention to when learning English. Drawing on the results of this study, the participants lacked competence in producing stress in English words, especially those with a high number of syllables. In particular, two stress patterns difficult for them to produce were stress on the ult in three-syllable words and on the pre-antepenult in four syllable words. Other problems that are worth mentioning were incorrect stress placement and equal stress on two or more syllables.

SUGGESTIONS AND RECOMMENDATIONS

It is hoped that this study can help both teachers and learners become aware of these problems of stress patterns at the word level, a circumstance that may enable lexical stress to be no longer a negligent area in the teaching and learning of English as a foreign language. In particular, teachers should not lay less emphasis on lexical stress than other features of pronunciation and English skills, and EFL learners should practice assigning stress patterns in multisyllabic words and producing them properly.

ACKNOWLEDGEMENTS

I am particularly grateful to Dr.Trinh Quoc Lap for his valuable advice and

comments on this work. My special thanks must go to my colleagues, Tran Thi Ngoc Minh, Nguyen Thi Ly and Huynh Mai Truc Phuong, who supported me a great deal during the conduction of this research. Finally, I would like to say thanks to all my students in pre-intermediate English classes for their great cooperation in the process of collecting the data for this study.

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