Relationships between Thai EFL Learners' Competence and Performance in Locating Stress on English Polysyllabic Loanwords

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Abstract

This paper reports the investigation on the students' competence in identifying stress patterns of English polysyllabic loanwords, measured in the form of stress marking on a written test, in relation to their actual performance in two oral-reading tasks: (1) reading the target loanwords in English sentences, and (2) reading those words in isolation. The 30 target loanwords were classified into 3 categories: two-syllable, three-syllable, and four-syllable loanwords. Participants were 30 Thai students in the English-Major program of a university in Thailand. The results of the three tasks reveal a mid-level relationship between the students' competence of stress and the performance in the oral-reading of loanwords in isolation. The correlation is significant at the 0.01 level. The finding indicates that in a more formal style of oral-reading, the effect of L1 transfer plays a less crucial role on the students' speech, resulting in a closer relationship between competence and performance. When investigating the use of stress on loanwords according to the number of syllables, a significant correlation existed between the students' competence and their performance in reading three-syllable loanwords in isolation. This finding suggests that the students possibly did not pay sufficient attention to stress patterns of two-syllable loanwords, causing them to perform inconsistently in different types of tasks. As for four-syllable loanwords, the students tended to locate stress randomly when performing each task due to insufficient knowledge of stress patterns in English polysyllabic words. The findings imply that in order to increase the levels of competence and performance in using stress, both teachers and students should pay more attention to stress patterns in English words with a high number of syllables. Moreover, students should always be careful with correct stress placement if an acceptable mastery of spoken English is a learning goal.

Key words: Loanwords, primary stress, competence, performance

Introduction

Presently, English loanwords have played an important role in the Thai lexicon. English words have been accepted into Thai with increasing usage, both in conversation and in writing. Generally, when words are borrowed into another language, they will be adapted to fit into the phonological system of the borrowing language. Naturally, these loanwords, when used in the Thai context, they are pronounced in the 'Thai way'. However, when these English words are used in English sentences, many Thai speakers still retain the Thai pronunciation of these loanwords. It is found that the longer a loanword has been borrowed into Thai and the more frequently it is used, the more

crucial role the transfer of L1 plays even when Thai speakers pronounce the word in the English context.

The effects of L1 transfer, i.e. a carry-over of items or patterns from the learners' first language (L1) to the second language (L2), can be both positive and negative. If a form in an L2 resembles a form in the learner's L1, the transfer is likely to yield a positive effect. On the contrary, when the patterns or systems of the two languages differ, learners tend to make errors that are mainly influenced by their L1. This situation is referred to as negative transfer or L1 interference. English and Thai differ substantially in their suprasegmental features. Stress and rhythmic patterns in English and Thai are different. As a free-stress language, the position of stress in English words is not fixed. By contrast, the stress in Thai words is fixed and always falls on the last syllable, irrespective of the number of syllable within a word (Luksaneeyanawin, 1983; Vairojanavong, 1983). In addition to such a difference, it is noted that English syllables vary in length. Stressed syllables are long and prominent, while unstressed syllables are said more softly with short reduced vowels. This important feature of stress in English is often ignored by Thai EFL learners who tend to be more concerned with enunciating each English syllable clearly, assuming that they will be well understood. Apart from the stress system, Thai syllables are assigned lexical tones which are non-existent in English. These Thai tones are constrained by syllable type and syllable structure (Gandour, 1979). While lexical tones are important for the pronunciation of Thai words, stress is an important feature in English. Incorrect stress placement on English words can affect prosodic structures at the sentence level, resulting in the obstruction of understanding and communication.

For Thai speakers of English, stress is one of the major problems for speech intelligibility. In Vairojanavong's (1984) contrastive analysis study, errors made by Thai learners of English tend to be attributed to the interference of the stress patterns and tones in Thai. The existence of mispronunciation of English loanwords is regarded as obvious evidence illustrating how suprasegmental features in Thai affect the use of stress in English words. Linguists and language educators have given considerable attention to the study of loanword phonology, focusing on the borrowing of both segmental and suprasegmental features and their correspondences from English to Thai. There have been a number of investigations into the role of stress in Thai on English loanwords (Bickner, 1986; Gandour, 1976; Kenstowicz & Suchato, 2006; Nacasakul, 1979; Peyasantiwong, 1986; Vairojanavong, 1983). Although these linguists differ in their approaches and opinions, they seem to agree that the syllable in word-final position in Thai polysyllabic words is the most prominent and has the strongest stress (Vairojanavong, 1983; Peyasantiwong, 1986).

Due to the difference in the suprasegmental features of English and Thai, this article investigates the ability to locate stress on English polysyllabic loanwords among Thai EFL students in an English major program. It aims at examining the relationship between the students' competence and performance in the use of stress by comparing their ability to mark stress on these loanwords in the written test against their ability to actually pronounce these loanwords in two types of oral-reading tasks: (1) reading the target loanwords in English sentences, and (2) reading these loanwords in isolation.

Review of Relevant Literature

Competence versus Performance

Competence or linguistic competence refers to a language user's underlying knowledge about the system of rules of a language (Owens, 1992). First language (L1) learners normally acquire the specific rules of a language intuitively through extensive exposure to the language in the environment. Second or foreign language (SL/FL) learners, on the other hand, often learn language rules from their learning experience, mainly in the classroom environment.

Performance or linguistic performance refers to actual usage of language in normal language users (Owens, 1992). Performance of SL/FL learners at developmental stages usually contain errors caused by several factors such as the transfer of the learner's L1, the transfer of training, strategy of L2 learning, strategy of L2 communication, and overgeneralization of the linguistic elements.

The Stress Systems of English and Thai

Stress is the relative emphasis that is given to certain syllables in a word, or to certain words in a phrase or sentence. Stress is typically signaled by such properties as increased loudness, longer vowel duration, full articulation of the vowel, and the rapid change in pitch. This paper deals with stress at the word level or lexical stress, which is the stress placed on one syllable of an individual word consisting of two or more syllables. Unstressed syllables are normally pronounced more quietly and with reduced vowels. Word stress can be categorized into: fixed stress and free stress. The fixed stress system applies to languages where all (or the majority of) words bear the primary lexical stress on the same syllable. Examples of fixed stress languages are: Czech (1st syllable stressed), Welsh and Polish (penultimate syllable stressed) and Thai (final syllable stressed). Free stress on the other hand applies to languages where the primary lexical stress is not fixed to a particular syllable. English and Russian are examples of free stress languages.

As a free-stress language, a stressed syllable in English words is unpredictable. How, then, do people know which syllable in a word should be said with stress? Normally, speakers of English simply have to remember where the stress has to be placed in each word. In fact, there are a few general rules to stressed syllables that provide descriptions of tendencies rather than definite rules. Yet, it is always possible to find exceptions. This usually causes foreign students to have difficulty locating stress correctly. The following are some common rules for stressed syllables in English polysyllabic words (Hancock, 2003; Kelly, 2003).

Table 1. General Rules for Word Stress in English Words

Type of Word	Normal Place of Stress	Examples
1. Two syllable nouns	First syllable	ˈmother, ˈclimate, ˈrecord, ˈinsect, ˈincrease, ˈpresent
2. Two syllable adjectives	First syllable	ˈpresent
3. Two syllable verbs	Second syllable	inˈcrease, preˈsent, imˈport

Type of Word	Normal Place of Stress	Examples
4. Two syllable words with the prefixes *a-* and *be-*	Second syllable	aˈbout, beˈfore
5. Words ending in {-tion} or {-sion}	The syllable immediately before the suffix	appliˈcation, atˈtention, comˈpassion
6. Words ending in {-ic} or {-ical}	The syllable immediately before the suffix	arˈtistic, eˈlectrical
7. Words ending in {-ial}, {-ian} and {-ially}	The syllable immediately before the suffix	artiˈficial, esˈsentially
8. Words ending in {-cy}, {-ty}, {-phy}, {-gy}, {-al}	Two syllables before the suffixes (third from end)	deˈmocracy, acˈtivity, phoˈtography, biˈology
9. Words ending in {-ee}, {-eer}, {-ese}, {-ette}, {-esque}, {-nique}	The suffix itself	traiˈnee, engiˈneer, Chiˈnese, cigaˈrette, pictuˈresque, uˈnique
10. Reflexive pronouns	The last syllable	myˈself, himˈself, themˈselves, ourˈselves, etc.
11. Compound nouns	The first part	ˈgreen house, ˈtea pot, ˈbathroom, ˈschool bus
12. Compound adjectives	The second part	bad-ˈtempered, self-ˈcentered
13. Phrasal verbs	The particle (preposition)	pick ˈup, turn ˈoff, drop ˈout, put aˈway

Unlike English, Thai is a fixed stress language. In Thai, the last syllable always has the strongest stress, irrespective of the number of syllables in the word. The secondary stress of the word is assigned based on the syllable structure of the word, but it normally falls on the first or second syllable. However, in regular speech tempo or in fast speech, the secondary stress may be reduced to become weak stress, while the primary stress always exists on the last syllable in all types of speech. In compound words, the secondary stress will appear on the stressed syllable of the first element. The stressed syllable of the second element always receives the primary stress (Vairojanavong, 1983).

A stressed syllable in Thai words has some similar characteristics as an English stressed syllable, that is, it is perceived as louder than the other syllables in the word and the vowel appears to be longer than when the same vowel occurs in unstressed syllables. There are other linguistic factors relating to stressed and unstressed syllables in Thai, for example, a longer duration of a vowel sound in stressed syllables and vowel shortening, tone neutralization, and glottal stop deletion occurring in unstressed syllables (Peyasantiwong, 1986).

From what has been discussed so far, one can find a number of contrasting rules with regard to the position of stress between Thai and English. For example, while the strongest stressed syllable is always on the last syllable in Thai words, many English words with two or more syllables usually carry the strongest stress on the first or second syllable. Moreover, due to the fact that Thai is a tonal language, each syllable is assigned a fixed pitch level based on the syllable structure and the position of the syllable in the word. Some syllables are assigned a high, low, falling or rising tone. A problem often arises when tones are assigned to English loanwords as will be discussed in the following section.

English Loanwords in Thai

As previously mentioned, English loanwords, when entering into Thai, are normally adapted to fit into the Thai phonological system. These loanwords will be assigned tonal categories based on the syllable structure of the word in a similar manner that tones are assigned to Thai lexical items. The syllable structures in the Thai language are schematized into two main types:

(1) 'Smooth' syllables are those ending in a long vowel (VV) or in a sonorant (S) segment, i.e., /m, n, ŋ, j, w/: CVV, CVS, CVVS;
(2) 'Checked' syllables are those ending in a non-sonorant or obstruent (O) segment, i.e., /p, t, k, ʔ/: CVO, CVVO.

For English loanwords, however, there are constraints on the distribution of lexical tones that are not totally identical to those that apply to Thai words. Gandour (1979) maintains that both phonetic and non-phonetic factors are involved in determining the eventual tonal representation of English stress patterns in the borrowed forms in Thai. He summarizes the rules of Thai tone adaptation that apply to the majority of English loanwords, as shown below.

Table 2. Tonal Assignment on English Loanwords in Thai (Gandour, 1979, p.142)

Syllable Type	*Monosyllabic words*	*Polysyllabic words*	
		Non-final position	*Final position*
'smooth' syllables	mid	mid	falling
'checked' syllables	high	high	low, falling

Two main points can be summarized here: first, the main characteristic of stress in English is the rapid change of pitch toward a relatively higher level, while the pitch level in Thai words is not characteristic of stress, but is the main feature of lexical tones which are assigned to all syllables according to the syllable structure, irrespective of stress. In Thai words, stress is recognizable by the longer duration of the vowel sound when compared with the same vowel occurring in an unstressed syllable. Second, the primary stress in Thai words is always on the last syllable no matter which tone it carries. This means that stress and tones (or pitch levels) in Thai are separate entities. A Thai syllable with the high tone or high pitch can be either stressed or unstressed, and it can occur at any position in a word, either final or non-final.

Due to the fact that the stress system in English and the stress and tonal systems in Thai share some similarities and differences, it can be expected that the L1 transfer in the pronunciation of English loanwords among Thai learners of English may yield either positive or negative effects depending on the extent to which the assigned tone and stress in Thai correspond to the English stress pattern of a certain word. The positive effect may occur when a Thai speaker pronounces an English stressed syllable that is assigned a high tone, which tends to result in a native English listener perceiving it as a stressed syllable. Conversely, an unstressed syllable carrying a high tone in a loanword in Thai tends to cause a native English listener to perceive it as a stressed syllable. This negative

transfer effect is likely to hinder Thai speakers' intelligibility when they use loanwords in an English context.

Another problem is that, since stressed syllables in English words are unpredictable, many Thai learners often have difficulty knowing which syllable should be stressed. Additionally, even when they know the position of stress, they find it problematic to use the correct pitch levels for the primary stress, secondary stress and weak stress in different positions of English polysyllabic words. Such competing strategies in the application of stress patterns between the two different suprasegmental systems are challenging for Thai EFL learners.

Relevant Research Studies

The study of loanword phonology has received much attention from several linguists and language educators. Earlier studies (e.g., Bickner, 1986; Gandour, 1976; Nacasakul, 1979; Peyasantiwong, 1986) focused on examining the rules for converting the stress patterns of English into Thai tonal categories and summarized the rules for assigning tones applicable to the majority of English loanwords in Thai. Bickner (1986) maintained that the assignment of tones in the Thai pronunciation of English loanwords was likely to result from the two likely routes through which these words entered Thai, that is, through speech and through writing. For some English words entering Thai through speech, tone adaptation was likely to be the product of imitation of stress and intonation from the English source words. On the other hand, the Thai pronunciation of other English loanwords entering Thai through writing may follow the rules of Thai spelling and may be the result of pronunciation of a transliteration (i.e. the process of converting words or letters from one writing system to another to make equivalent sounds).

A more recent work in loanword adaptation from English into Thai was conducted by Kenstowicz and Suchato (2006), reporting major results from an analysis of an 800-word corpus of loanwords from English into Thai. The study focused on the context-free adaptation of consonants, the correspondences between consonant sounds of the two languages, adaptations to accommodate Thai syllable structure, and the selection of tones for loanwords. Concerning the adaptation into Thai prosodic structure, the study reported that the final syllable of loanwords bears a major stress and is required to be a heavy syllable. For the most part, tone is assigned according two rules: (1) syllables ending in a sonorant take the mid tone; and (2) syllables ending in an obstruent take the high tone. The results confirm the rules of tonal assignment summarized in Gandour's (1979) study.

There has also been an interest in examining stress patterns of English polysyllabic words used specifically in some professions like terminologies for medical terms. Vairojanavong (1983) made a contrastive study of the stress systems of English and Thai and presented an error analysis of the stress patterns in 19 English polysyllabic medical terms pronounced by resident doctors and medical students. Her findings suggest that most errors were caused by L1 interference, as stress patterns in Thai are fixed while English is a free stress language. Only 4% of the words were stressed correctly. Interestingly, resident doctors who were more familiar with those medical terms made more interference errors than medical students who were less familiar with the same medical terms. It may therefore be inferred that, though medical students and physicians

use English medical terms throughout their studies and careers, correct word stress seems to be ignored.

In a more recent work on word stress in polysyllabic medical terms, Watanapokakul (2009) found that the medical students' ability to pronounce 35 English medical terms with two to more than four syllables presented on a word list correlated with their ability to mark stress on these terms, suggesting a positive relationship between the performance and competence of the students. The findings also show that the more syllables a medical term has, the more difficult it is for medical students to pronounce. From the questionnaires asking for opinions on the importance of word stress placement in medical terms, the results reveal that most students thought that they had insufficient knowledge of English word stress patterns, but they realized the importance of using word stress correctly, as the incorrect use of word stress can have negative effects on their profession and communication.

Motivated by the findings from the above-mentioned research works, this study seeks to investigate the students' ability to locate the primary stress on English loanwords in two types of oral-reading tasks: (1) reading the target loanwords in English sentences, and (2) reading these words in isolation. Its goal is to explore the relationship between the students' performance and their competence or underlying knowledge of the stress patterns of the target loanwords measured in the form of stress marking on a written test.

Method

Participants

The participants consisted of 30 students drawn from a pool of 82 third-year English-Major students at Dhurakij Pundit University, located in Bangkok, Thailand. The justification for choosing third-year students was that these students had prior basic knowledge of English phonetics from an English pronunciation course they were required to take in the second semester of the previous academic year. Please note that this paper is the first phase of the study, which reports the quantitative results regarding the students' competence and performance in locating stress on English loanwords. The ultimate goal of the second phase of the study, which will be reported in a future paper, is to qualitatively present and discuss the effects of stress patterns and tones in Thai on the resultant stress placement on English loanwords among Thai students. Therefore the decision was made to select a relatively small size of sample group for the purpose of precise qualitative analysis. The selection process was based on the students' relative English proficiency as measured by scores on an in-house test of English proficiency, referred to as DPU-TEP. The 30 selected students consisted of 15 students with the highest DPU-TEP scores and 15 students with the lowest DPU-TEP scores. These students had the minimum of 9 years up to the maximum of 14 years of formal English instruction. They were asked to engage in the study, but were not informed of the specific objectives of the study prior to the experiment.

Instruments

The instruments utilized in the study consisted of three tasks. The first task was an oral-reading of thirty English sentences, each of which contained one target English

polysyllabic loanword. These sentences were written in simple structures, consisting of six to ten words. They were edited by a native English-speaking teacher to ensure correctness. The participants were asked to perform this task with no knowledge of which element was being investigated. The second task was an oral-reading of the 30 target loanwords listed in isolation. This task is regarded as a more formal style of reading due to the fact that the participants are immediately aware of which words are being tested. Therefore, they are inclined to pronounce these words more carefully in terms of segmental and suprasegmental features. The third task required the participants to mark the primary stress for each of the target words listed in isolation on a written test. This task aims at assessing the participants' knowledge of the English stress patterns of the target words. (Please refer to the Appendix.)

The selection of the thirty loanwords used in this study was based on the following criteria: (1) they are frequently-used loanwords in spoken and written Thai; (2) they do not have the primary stress on the last syllable. The second criterion eliminates the possibility of students placing the stress correctly by default, as stress in Thai always falls on the last syllable irrespective of the number of syllable within a word. The loanwords used in the study are classified into three groups: loanwords with two syllables, three syllables, and four syllables, selected according to the following process.

(1) Twenty-five loanwords from each category: two syllables, three syllables, and four syllables, totaling 75 words, were chosen from the following websites:
    http://www.rta.mi.th/chukiat/story/thai_engl.htm
    http://www.english-room.com/borrowed_words.html
    http://thairo501.tripod.com/information/ThaiOfEngl.htm
    None of the 75 selected words had the primary stress on the last syllable.
(2) A Thai EFL teacher who is an expert in English phonetics was asked to choose 15 frequently-used loanwords from each category, totaling 45 words.
(3) Each of these 45 words was checked against the Thai National Corpus (TNC), developed by Chulalongkorn University's Department of Linguistics, to obtain the frequency of use in the spoken and written Thai language.
(4) Then, 10 frequently-used words from each category were selected. These words have the following English stress patterns, where 'O' represents a stressed syllable, and 'o' an unstressed syllable:

Two-Syllable Words:	O o	=	10 words			
Three-Syllable Words:	O o o	=	5 words	o O o	=	5 words
Four-Syllable words:	O o o o	=	3 words	o O o o	=	3 words
	o o O o	=	4 words			

Following the target word selection, a sentence was formulated for each word. The 30 sentences and the 30 loanwords on the list were arranged in a random order so that the target words could not be easily recognized by the participants while performing the oral-reading task.

Data Collection

The data collection process was conducted in a language laboratory with all the 30 participants present at one time. The participants were briefed on the procedures of the

three tasks and the method of recording their speech using the Sound Forge 9 software. The participants were then given the first task and were told to read the text silently for a few minutes to familiarize themselves with the words in the 30 sentences. They were not permitted to ask questions about the pronunciation of words, nor to use a dictionary. Following the familiarization period, the participants recorded their oral-reading of the sentences at their normal speech rate, and saved their digital files as Task R1. After the first task, the participants were given the list of loanwords to read out loud. Their speech was recorded and saved as Task R2. Following the two oral-reading tasks, the participants were asked to mark the symbol (') in front of the syllable that carries the primary stress on the written test, referred to as Task W1.

Data Analysis

Stress on each loanword produced by the participants in Tasks R1 and R2 was identified by a native English-speaking teacher (NEST). To attain reliability in the identification process, 20% of the recordings were randomly selected as representative samples and were listened to by the NEST and another NEST rater. The percentage of agreement between the two raters was 99.25%, which was considered a sufficient degree of agreement for the present study. The stress-marking task (W1) was checked by the researcher. The results were compared against the participants' oral-reading performance in Tasks R1 and R2. The data was analyzed using descriptive statistics, Independent Samples t-test, and Pearson product-moment correlation coefficient.

Results

To present an overview of the students' ability to locate stress in the three task types: reading English sentences (R1), reading loanwords in isolation (R2), and marking the stress symbol (W1), Table 3 below displays the students' correct use of stress taken from a total frequency count of 900 (30 words x 30 students) for each task, calculated into percentages (%) and mean values ($\bar{x}$). Pearson product-moment correlation coefficient was conducted to further analyze whether there was a relationship between the students' performance in tasks R1 and R2, and their competence of stress patterns in task W1, as shown in Table 4.

Table 3. Students' Correct Use of Stress in Three Tasks

R1 – Sentence Reading (30 words)			R2 – Word Reading (30 words)			W1 – Stress Marking (30 words)		
Frequency	%	$\bar{x}$	Frequency	%	$\bar{x}$	Frequency	%	$\bar{x}$
480/900	53.4	16.00	662/900	73.6	22.07	707/900	78.6	23.57

Table 4. Correlations of Students' Correct Use of Stress between Tasks

	W1	
	r	Sig.
R1	.150	.429
R2	.508	**.004****

**p < .01

The results in Table 3 show that the students marked stress correctly in Task W1 at the highest percentage, 78.6%, followed by word reading at 73.6%, and sentence reading at 53.4%. The mean scores ($\bar{x}$) of correct stress placement, out of the total of 30 words, for tasks W1, R2 and R1 are 23.57, 22.07 and 16.00, respectively. One can imagine that marking stress on words (W1) requires the students to utilize their competence in retrieving and generalizing rules or guidelines for English stress patterns from their learning experience. This finding indicates that although the students had quite high competence of English stress patterns as seen from their highest mean scores for W1, their performance in oral-reading the target words in sentences (R1) did not accord with their competence.

Statistical testing results in Table 4 show that the students' competence in correctly marking the stress symbol (W1) correlates with the use of correct stress in reading the loanwords in isolation (R2), but the correlation did not exist between W1 and R1. This finding suggests that the students tend to use more incorrect stress patterns in the less formal style of oral-reading, despite the fact that they have knowledge about the stress patterns of these words. It is hypothesized that familiarity with the Thai pronunciation of these frequently-used loanwords in the Thai context plays a crucial role when students do not pay careful attention to correct stress patterns when pronouncing these words in English sentences.

To examine the students' use of stress on loanwords according to the number of syllables, the data was further analyzed and presented in Table 5.

Table 5. Students' Correct Use of Stress in Two-Syllable, Three-Syllable, and Four-Syllable Loanwords across Three Tasks

	R1 – Sentence Reading (10 words)			R2 – Word Reading (10 words)			W1 – Stress Marking (10 words)		
	Frequency	%	$\bar{x}$	Frequency	%	$\bar{x}$	Frequency	%	$\bar{x}$
Two-Syllable	163/300	54.3	5.43	273/300	91.0	9.10	278/300	92.7	9.27
Three-Syllable	190/300	63.3	6.33	230/300	76.7	7.67	251/300	83.7	8.37
Four-Syllable	127/300	42.3	4.23	159/300	53.0	5.30	178/300	59.3	5.93

Table 5 shows the students' correct use of stress in words with two-, three-, and four-syllables taken from a total frequency count of 300 (10 words x 30 students) for each task type, calculated into percentages (%) and mean values ($\bar{x}$). As displayed, the students' competence in the stress patterns of two-syllable loanwords was high, as

indicated in the highest degree for correct stress marking-W1, at 92.7%, with the mean of 9.27 out of 10 words. However, one may observe that the percentage for using correct stress in reading two-syllable loanwords in sentences was remarkably low, 54.3%, i.e. 5.4 out of 10 words in average, while the percentage for R2 was high, 91.0%, i.e. with the mean of 9.1 out of 10 words. This suggests that the students had high competence in the stress patterns of two-syllable words, but they performed differently in different types of oral-reading. When comparing the sentence reading (R1) of two-syllable words with three-syllable words, the percentage was higher for three-syllable words than for two-syllable loanwords (i.e. 63.3% > 54.3%). Conversely, in Task R2, the percentage was lower for three-syllable loanwords than for two-syllable loanwords (76.7% < 91.0%). The percentage in the stress marking-W1 was also lower for three-syllable loanwords (83.7% < 92.7%). This suggests that students had lower competence of stress patterns in three-syllable loanwords than two-syllable words, but they demonstrated better performance for three-syllable loanwords in R1. One possible explanation could be that the transfer of L1 plays a more crucial role on two-syllable words in less careful speech. As for loanwords with four syllables, it is quite clear that the percentages were low for all the three tasks, as observed by the relatively low percentages in the oral-reading tasks, 42.3% in R1, 53% in R2, and 59.3% for W1. The results suggest that four-syllable loanwords are challenging for students to place stress correctly. This finding is consistent with Watanapokakul's (2009) study reporting that the more syllables a word has, the more difficult it is for the students to place correct stress.

To investigate relationships between the students' competence and performance in locating stress on loanwords according to the number of syllables, the data was analyzed and presented in Table 6.

Table 6. Correlations of Students' Correct Use of Stress in Two-Syllable, Three-Syllable, and Four-Syllable Loanwords across Three Tasks

Two-Syllable Words		W1	
		r	Sig.
	R1	.360	.051
	R2	.319	.086
Three-Syllable Words		W1	
		r	Sig.
	R1	.142	.454
	R2	.564	**.001****
Four-Syllable Words		W1	
		r	Sig.
	R1	.262	.162
	R2	.096	.614

**p < .01

Table 6 demonstrates a low level of relationship between the students' competence in marking stress (W1) on two-syllable loanwords and their performance in pronouncing the words either in sentences (R1) or in isolation (R2). The correlation is not significant, as shown. This finding indicates that the students' performance in pronouncing the two-syllable loanwords did not accord with their competence in the

English stress patterns of these words. One possible explanation could be that the students did not pay sufficient attention to the stress patterns of loanwords with two syllables, especially when they are mixed up with other words in sentences. As a result, the students tended to locate stress inconsistently when performing different types of tasks.

As for three-syllable loanwords, a mid-level relationship was found between stress-marking (W1) and reading loanwords in isolation (R2); the correlation was significant at the 0.01 level. It is interesting to note that although three-syllable words tend to be more difficult to locate stress correctly than two-syllable words, the students' performance of these words accord with their knowledge of the stress patterns of these words, but only when the students pronounce these words in isolation. This finding implies that students tend to be more capable of using correct stress when they pay greater attention to the English stress patterns in more formal speech. Conversely, if students overlook the importance of using correct stress on English words in a less formal speaking style, they are more likely to make mistakes and allow L1 transfer to play a crucial role, as in the case of their pronunciation of two-syllable loanwords.

Due to the fact that four-syllable loanwords are the most difficult to locate stress correctly, relationships between the students' competence of stress patterns and their ability to pronounce these loanwords in sentence reading and word reading were at very low levels (i.e., r = .262 and .096, respectively). The correlation is not statistically significant. It seems likely that the lack of correlation between performance and competence in identifying the stress patterns of four-syllable loanwords results from the students' insufficient knowledge of stress location on words with a high number of syllables, causing them to locate stress randomly in different task types.

Conclusion

The objective of the study was to examine relationships between the students' competence of stress patterns of the 30 English loanwords, as measured by the stress marking task (W1) and their actual pronunciation of these words in two oral-reading tasks: reading words in sentences (R1) and reading words in isolation (R2). The results reveal that students tended to ignore the English stress patterns of two-syllable loanwords when reading them with no knowledge of the target elements being investigated (i.e. in Task R1). They became more aware of the English stress patterns when they read three-syllable loanwords, particularly in a more formal type of oral-reading (i.e. in Task R2). For four-syllable loanwords, the majority of students had insufficient knowledge of the correct stress patterns; thus, their placement of stress was inconsistent in different task types. In terms of relationships between the students' competence of stress patterns and their performance in pronouncing the target loanwords, the results show a significant correlation between the students' competence of stress patterns and their performance in reading the loanwords in isolation at the 0.01 level. These findings are consistent with the results from Watanapokakul's (2009) study in that a relationship existed between competence and performance when students read words on a list. The findings of both studies suggest that the effect of the Thai pronunciation on English words tends to play a less crucial role when the words are pronounced in a more formal style of oral-reading, as students tend to read them carefully. However, in the present study the students were asked to perform the first task by reading the target words which were randomly

distributed in sentences (Task R1), and it was found that the relationship between their performance and competence was low. It is quite clear then that L1 transfer effect had greater impact in reading these words in a less formal style. Two possible reasons could be accountable for this phenomenon. First, the students had no knowledge of the target words to be investigated when the words were mixed in sentences, and thus they did not pay careful attention to the stress patterns. Second, the target words chosen for this study are loanwords frequently used in Thai. Familiarity of using these words in the Thai context seems to greatly affect their pronunciation in English.

In examining the relationships between knowledge of stress and actual pronunciation of the loanwords according to the number of syllable, the results from Pearson correlation reveal no significant correlation between the students' competence of stress patterns and their ability to pronounce two-syllable loanwords in both oral-reading tasks, R1 and R2. One possible reason could be that the students did not pay sufficient attention to the stress patterns of loanwords with two-syllables, causing them to perform inconsistently in different task types. One can see that the students mispronounced two-syllable loanwords substantially in their first oral-reading task (R1). For three-syllable loanwords, the results show a significant correlation between stress marking-W1 and word reading-R2, but not between W1 and sentence reading-R1. The results suggest that the performance in reading three-syllable loanwords accords with the competence of the students only when the students carefully read those words in isolation. As for loanwords with four syllables, statistical results show a low level of relationship between the students' competence of stress patterns and their ability to pronounce these words in both R1 and R2. The finding suggests that the students possibly located stress randomly when performing each task due to insufficient knowledge of stress patterns in English words with more than three syllables.

Pedagogical Implications

This study addressed the problems of using correct stress patterns when pronouncing English loanwords in the English language context. It is clear that English word stress is an important element for rendering communication intelligibility. The results of the study are likely to help both teachers and students become more aware of the problems of word stress and give greater importance to using correct stress patterns in spoken English. The pedagogical implication is that knowing the similarities and differences of the English and Thai stress systems and tonal categories should help teachers to develop an informed method to teach word stress patterns in English polysyllabic words. It is important to raise the students' awareness that while the final syllable of Thai words always carry the strongest stress, English words seldom have stress on the final syllable. This will help students to avoid pronouncing English words in the Thai way. In addition, teachers may discuss the concepts of tones and stress and demonstrate to the students how tone assignment on a syllable can affect the perception of stress in English words. If the students are aware that using the high tone on unstressed syllables may lead to the perception of stress misplacement, they need to constantly practice how to use the correct pitch and reduced vowel sound for unstressed syllables and use the high pitch only on the stressed syllable of English words.

Limitations of the Study

Due to the fact that the participants consisted of only 30 students in the English major program of a Thai university, the study is limited by a small sample size. Therefore, the findings may be generalizable only to students sharing similar EFL contexts, and not to students of other English learning contexts.

Recommendations for Further Research

Based on the findings from the study, a few recommendations can be made for further research.

Firstly, future research can be extended with larger groups of participants in order that the results can be more objectively validated. Secondly, a study of similar nature can be conducted with different groups of participants to gain insights and varying perspectives for comparison. Finally, future research may also be conducted to investigate the use of stress on English terminologies or jargons regularly used by Thai speakers in different professions.

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Appendix

Oral-Reading Part A
Please read the following sentences.

1. There is a small supermarket near my house.
2. The company paid him a big bonus.
3. Chlorine is widely used to kill bacteria.
4. A helicopter crashed into a building last night.
5. Jack gives me a ride to the office every morning.
6. A condominium near a BTS station is very expensive.
7. Perfumes and cleaning fluids contain alcohol.
8. Jane connected the microphone to a computer.
9. Too much cholesterol in the blood can cause heart disease.
10. Japan has decreased the import quota on shrimps.
11. His house is full of antique furniture.
12. He printed documents from a laser printer.
13. Most plastic is made from petroleum.
14. Anna started playing tennis last year.
15. To control weight, avoid high calorie foods.
16. Korean fashion is very popular in Thailand.
17. Microwave ovens are not suitable for grilling.
18. These pots and pans are made from aluminium.
19. A thermometer is a tool to measure temperature.

20. Yaya likes to watch romantic movies.
21. One of my school teachers was a missionary.
22. The bird flu virus can pass from human to human.
23. Korea is famous for the electronics industry.
24. The director is facing many charges of corruption.
25. Low carbohydrate diets help people lose weight quickly.
26. My mother made me a tuna sandwich for lunch.
27. I need a battery for my new camera.
28. Modern technology can help reduce production costs.
29. Mary decided to take a taxi to the airport.
30. She handed a ten dollar bill to the cashier.

Oral-Reading Part B

Please read the words on the list below.

1.	thermometer	11.	quota	21.	helicopter
2.	sandwich	12.	condominium	22.	bonus
3.	furniture	13.	petroleum	23.	corruption
4.	carbohydrate	14.	dollar	24.	cholesterol
5.	office	15.	technology	25.	taxi
6.	calorie	16.	computer	26.	electronics
7.	aluminium	17.	romantic	27.	alcohol
8.	tennis	18.	supermarket	28.	microwave
9.	bacteria	19.	fashion	29.	virus
10.	laser	20.	missionary	30.	battery

Stress Marking Test

Please put the primary stress mark (ˈ) on the correct syllable.

1.	thermometer	11.	quota	21.	helicopter
2.	sandwich	12.	condominium	22.	bonus
3.	furniture	13.	petroleum	23.	corruption
4.	carbohydrate	14.	dollar	24.	cholesterol
5.	office	15.	technology	25.	taxi
6.	calorie	16.	computer	26.	electronics
7.	aluminium	17.	romantic	27.	alcohol
8.	tennis	18.	supermarket	28.	microwave
9.	bacteria	19.	fashion	29.	virus
10.	laser	20.	missionary	30.	battery