Some English Stress Mistakes and Solutions - A Phonetic Experimental Research on Vietnamese Students

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Abstract: The combination of phonological knowledge with rhythm and English stress rules is one of the solutions for English stress problems facing Vietnamese students. From the phonetic experiment, some types of stress mistakes made by Vietnamese students were discovered. The hypothesis is that the English Rhythmic patterns and English stress rules will help students to solve their stress problems. However, the English stress rules are so complicated. Therefore, based on the main rhythmic pattern, the key for stress rules has been raised to simplify the way to recognize stressed syllables. The final target is to help Vietnamese students identify English words through different ways of stress placement in order to increase their pronunciation ability as well as catching the main idea in the conversation to improve their communicative skill in English.

Keywords: English Rhythmic Pattern, Complex Rhyme, Heavy Syllable, English Stress Rules, Phonetic Experiment

1. Introduction

No one can deny that every language in the world has its own characteristic speech rhythm. English tends to be a stress-timed language with rhythmic patterns based on a fairly regular recurrence of stressed syllables [3]. However, Vietnamese tends to give equal weight to each syllable [4, 29, 30]. As a result, many students often use the Vietnamese rhythmic pattern when speaking English. In addition, Vietnamese language has mono-syllabic words while English words are multi-syllabic. Therefore, they are the main reasons leading to stress problems facing Vietnamese students.

To solve this problem, it is important for students to know the different rhythmic patterns between Vietnamese and English. Moreover, the English stress rules are so complicated that it is not easy for Vietnamese students to recognizer stress syllables in English multi-syllabic words. Therefore, the paper aim to simplify the English stress rules mainly based on the English rhythmic characteristics and types of English stress mistakes recognized through phonetic experiment made by Vietnamese students.

2. Methodology

The research was conducted for twenty–four weeks from January 2012 to June 2012 with six weeks for preparation and choosing population, twelve weeks for phonetic experiment, and the last six weeks for data analysis. The method used in the research is the comparative strategy based on the prosodic analysis of Rhythmic patterns between English and Vietnamese, as well as the combination of quantitative approach and phonetic experimental approach to find out students' stress mistakes and solutions.

The word samples were recorded from the 'Oxford Advanced Learner Dictionary' 'Cambridge Advanced Learner Dictionary' and 'Multi-Dictionary version 9.0 HuyBiên 2008', called standard pronunciation (Cáchphátâmchuẩn = CPAC) or RP (Received pronunciation) and from the population (students), called investigating samples (Mẫukhảosát = MKS) or T (Token). The data was analyzed and illustrated by SPEECH ANALYZER (Copyright © 1996-2007 by SIL International) and PRAAT 5.05.12. (copyright @ 1992-2008 by Paul Boersma and David Weenink).

3. Data Analysis and Finding

3.1. Comparison Between English and Vietnamese Rhythmic Patterns

"English is a Stress-timed language, with the rhythmic pattern based on the regular repetition of the stressed syllables. Whereas, Vietnamese tends to have the equal syllable to form the Rhythmic pattern of the Syllable-timed language, with the syllables having the equal intensity" [[3]]. Therefore in the paper "*A case study of solutions to some stress mistakes made by Vietnamese students - a phonetic experimental research*" by Dr. Tran Thi Thanh Dieu, a table of comparison between the English and Vietnamese rhythmic patterns has been summarized as follows [[6]].

Table 1. *Comparison of the English and Vietnamese Rhythmic Patterns.*

	ENGLISH RHYTHMIC PATTERN	VIETNAMESE RHYTHMIC PATTERN
Type of language	Stress-timed language, with the rhythmic pattern based on the regular repetition of the stressed syllables	Syllable-timed language, with the syllables having the equal intensity,
Pattern	{F = [S W]}	{N = [A]} = {R ==[S]}
Meaning of the abreviation	F = Foot S = strong W = weak	N = nhịp (= Rhythm) A = âm tiết (= syllable)

The foundation of the English rhythmic pattern is the existence of the 2 types of syllable: heavy and light syllable. A light syllable contains only a short vowel in the rhyme, with no coda, as in the first syllable of the word "about" because onsets are entirely irrelevent to the calculation of syllable weight [[18]]. If a syllable has a complex rhyme, then it is heavy; and complexity of rhyme can be achieved in two different ways. First, a heavy syllable may have a short vowel, but one or more coda consonants, as in the word "bet, best". Second, it may have a branching nucleus, consisting of a long vowel or diphthong; such a syllable will be heavy whether it also has a bled coda, as the second syllable of the word [chor ale] and as it put by the Cambridge advance learner dictionary – third edition "when a word or syllable is pronounced with greater force than other words in the same sentence or other syllables in the same word, it is stressed", as well as Fry (1955, 1958)'s identified the intensity over the syllable as a possible acoustic correlate of stress differences.

3.2. Phonetic Experiment for Mistakes Recognization and Solutions

3.2.1. Phonetic Experiment Proving the Mistakes on English Word Stress Made by Vietnamese Students

A spectrogram as the one below is created by displaying all of the spectra computed from the speech waveform together. The vertical axis in a spectrogram represents frequency, with 0 Hz at the bottom. The lines visible in the spectrogram on this page each represent 1000 Hz along the frequency axis, so that the spectrogram contains 8000 Hz in total. All of the spectra computed by the Fourier transform are displayed parallel to this vertical or y-axis. The horizontal axis represents time; as we move right along the x-axis we shift forward in time, traversing one spectrum after another. Spectrograms are normally computed and kept in computer memory as a two-dimensional array of acoustic energy values. For a given spectrogram S, the strength of a given frequency component f at a given time t in the speech signal is represented by the darkness or color of the corresponding point S(t,f). Therefore, RP = CPAC (Cáchphátâmchuẩn: received pronunciation /standard pronunciation) and IS = MKS (Mẫukhảosát: token/ investigated sample) of many words of all types were recorded and investigated by phonetic experiment providing the result, in which the word [chorale] has been chosen for illustration as the following spectrogram figures.
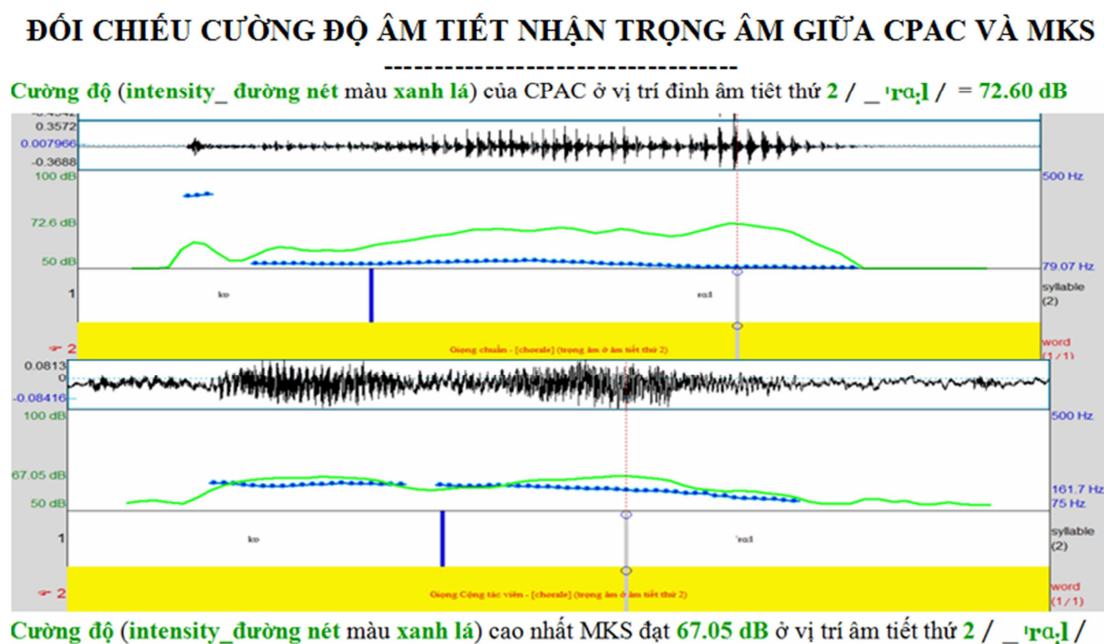

Figure 1. *Spectrogram of the Pitch and Intensity comparison between RP and IS.*

Table 2. Comparison of the Intensity and Pitch between RP and IS.

MAXIMUM NUMBER		RP	IS
INTENSITY	SYLLABLE 1	60.66 dB	66.24 dB
	SYLLABLE 2	72.60 dB	67.05 dB
PITCH	SYLLABLE 1		183.7 Hz
	SYLLABLE 2	107 Hz	

As it put by the Cambridge advance learner dictionary – third edition "when a word or syllable is pronounced with greater force than other words in other syllables in the same word, it is stressed", as well as Fry (1955, 1958)'s identified the intensity over the syllable as a possible acoustic correlate of stress differences, according to the number in the table and the spectrogram figures above, the intensity of RP = CPAC at the first syllable peak is 60.6dB and at the second syllable peak is 72.60 dB, therefore, we can have the conclusion that RP pronounced with a greater energy at the second syllable than at the second syllable (72.60 dB - 60.66 dB = 12.06dB) and made the English rhythm pattern as {F = [S W]}. Whereas the intensity of IS = MKS at the first syllable peak is 66.24 dB

and at the second syllable peak is 67.05 dB, nearly the same intensity at the peak of the stressed and un stressed syllable (67.05 dB - 66.24 dB = 0.81dB), which is a serious mistake caused by the influence of Vietnamese mother tongue, called interfering mistake in language with the Vietnamese rhythmic pattern as {N = [A]}. In addition, the pitch can't be used as the cue identifying stress syllable but just shows the accent type of the speakers.
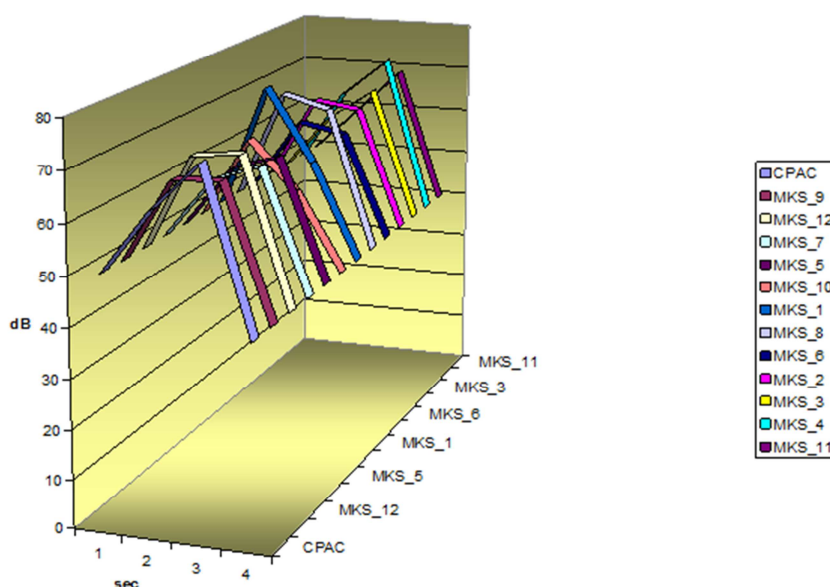
To find out the types of English stress mistake made by Vietnamese students, 12 groups of IS from the Northern, Central and Southern of Vietnam have been recorded their pronunciation of the all kinds of English words, as follows.

- Simple words: multi-syllabic words without affix of Noun, Adjective, Verb.
- Complex words: multi-syllabic words with affix.
- Compound words: with 2 roots.

The result of the disyllabic word [chorale] pronounced by 12 groups of IS is used to illustrated the 3 types of English stress mistake made by Vietnamese students.

Table 3. Intensity and Pitch mean of RP and IS in the phonetic experiment.

No	Mistake-type Group	Intensity mean			Mistake-type and the number of IS in every group/ 100		Pitch Difference mean
		Syllable 1	Syllable 2	Difference			
CPAC/ RP		62.90 dB	72.60 dB	9.70 dB	EXACT		107 Hz
1	T_9	66.51 dB	67.06 dB	0.55 dB	A		183.7 Hz
2	T/MKS_12	69.13 dB	70.03 dB	0.9 dB	A		189.4 Hz
3	T_7	62.14 dB	65.52 dB	3.38 dB	A	33.33%	176.5 Hz
4	T_5	62.21 dB	65.25 dB	3.04 dB	A		123.5 Hz
5	T_10	66.22 dB	56.02 dB	-10.2 dB	B		122.2 Hz
6	T_1	75.11 dB	60.01 dB	-15.1 dB	B	16.6 6%	163.1 Hz
7	T_8	72.01 dB	69.28 dB	-2.73 dB	AB		103.6 Hz
8	T_6	64.03 dB	62.04 dB	-1.99 dB	AB	25%	199 Hz
9	T_2	67.11 dB	65.55 dB	-1.56 dB	AB		163.2 Hz
10	T_3	61.22 dB	67.88 dB	6.66 dB	Adapt 50 -69% RP	16.6 6%	122.7 Hz
11	T_4	65.04 dB	73.05 dB	8.01 dB			192.4 Hz
12	T_11	59.21 dB	68.82 dB	9.61 dB	Adapt 70 -90% RP	8.33% -	111.3 Hz

ĐỐI CHIẾU HIỆU SỐ CƯỜNG ĐỘ ĐỈNH 2 ÂM TIẾT TỪ CHORALE GIỮA CPAC VÀ 12 MKS

Figure 2. Comparison between RP Intensity and intensity difference among 12 TOKEN groups.

3.2.2. Types of English Stress Mistake

From the phonetic experiment above, three types of English stress mistakes have been recognized

Type 1: Rhythmic error (A)

Right stress placement but nearly the same force for the two syllables, not adapt the Rhythmic Pattern {F = [S W]}.

The two IS (MKS) adapted 50 -69% RP (CPAC), equal to 16.66% since the intensity difference (ID) between the 2 syllable peaks of IS_3 = 67.88 dB – 61.22 dB = 6.66 dB and ID between the 2 syllable of IS_4 = 73.05 dB – 65.04 dB = 8.01 dB. Therefore, there was no mistake of stress placement. However, this intensity difference can not lead to one strong syllable and one weak syllable of the Rhythmic pattern {F = [S W]}. Therefore, this is the illustration for the Rhythmic error (A).

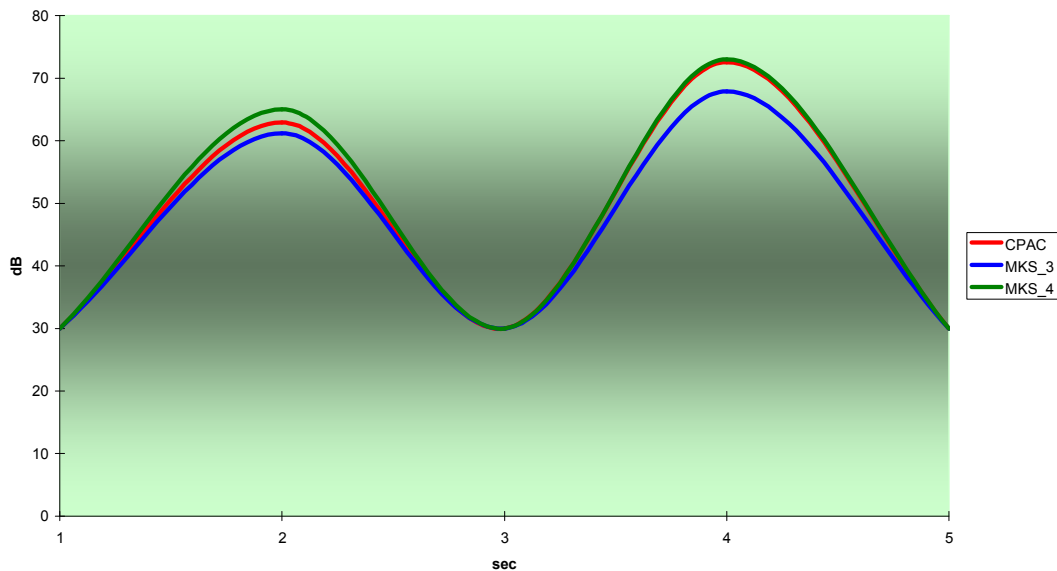ĐỐI CHIẾU HIỆU SỐ CƯỜNG ĐỘ 2 ĐỈNH ÂM TIẾT GIỮA CPAC VÀ MKS 3, 4

Figure 3. *The intensity difference between the 2 syllable peaks of the word [chorale] between RP and IS_3,4.*

Type 2: Wrong placement of stress (B)

Gaining the percentage 16.66% is the two investigated samples having the intensity difference between the 2 syllable peaks from 10p to adapt the Rhythmic pattern {F = [S W]}. However, the intensity difference between the two syllable peaks of IS_1 = 60.01 dB - 75.11 dB = - 15.1dB and between the two syllable peaks of IS_10 = 56.02 dB – 66,22 dB = - 10.2 dB, to illustrate that the two investigated samples place stress on the 1st syllable to make the stress placement mistake (B).

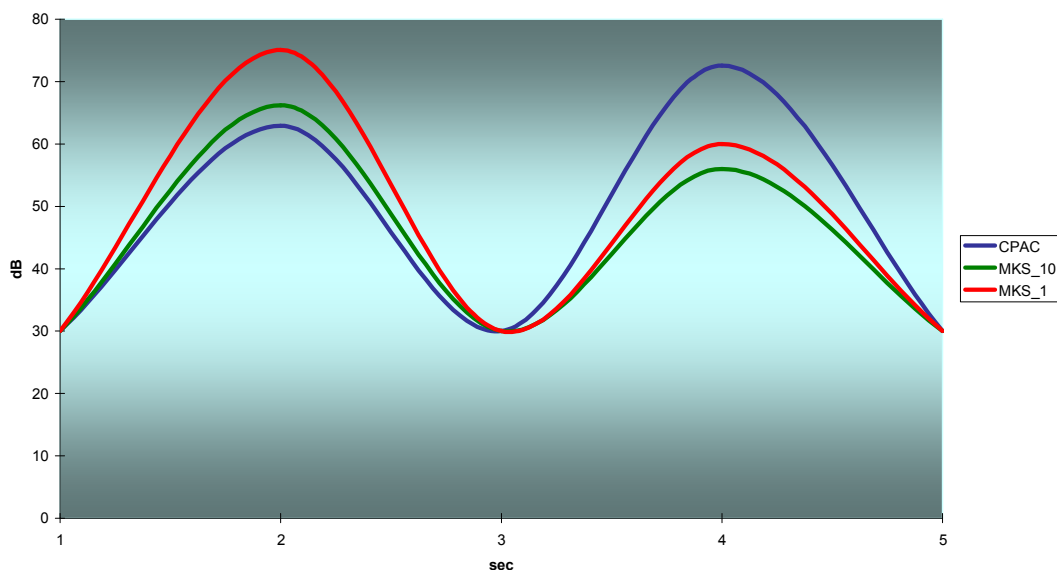ĐỐI CHIẾU HIỆU SỐ CƯỜNG ĐỘ 2 ĐỈNH ÂM TIẾT GIỮA CPAC VÀ MKS 1, 10

Figure 4. *The intensity difference between the 2 syllable peaks of the word [chor ale] between RP and IS_1,10.*

Type 3: The combination of type 1 and type 2: (A + B)
Rhythmic error (A) and Wrong placement of stress (B).

One more mistake type is the combination of the Rhythmic error (A) and the wrong placement of stress (B), having 25%, since the intensity difference between the two syllable peaks of IS_8 = 69.28 dB - 72.01 dB = -2.73 dB, IS_6 = 62.04 dB - 64.03 dB =, -1.99 dB HSCĐ and T_2 = 65.55 dB - 67.11 dB =-

1.56 dB to illustrate the wrong placement of stress while placing stress at the 1st syllable. Moreover, the intensity differences <3, showing the unablility of adapting the Rhythmic Pattern {F = [S W]}, to compare with the intensity difference between the two syllable peak of RP = = 72.60 dB - 62.90 dB = 9.70 dB > 5.
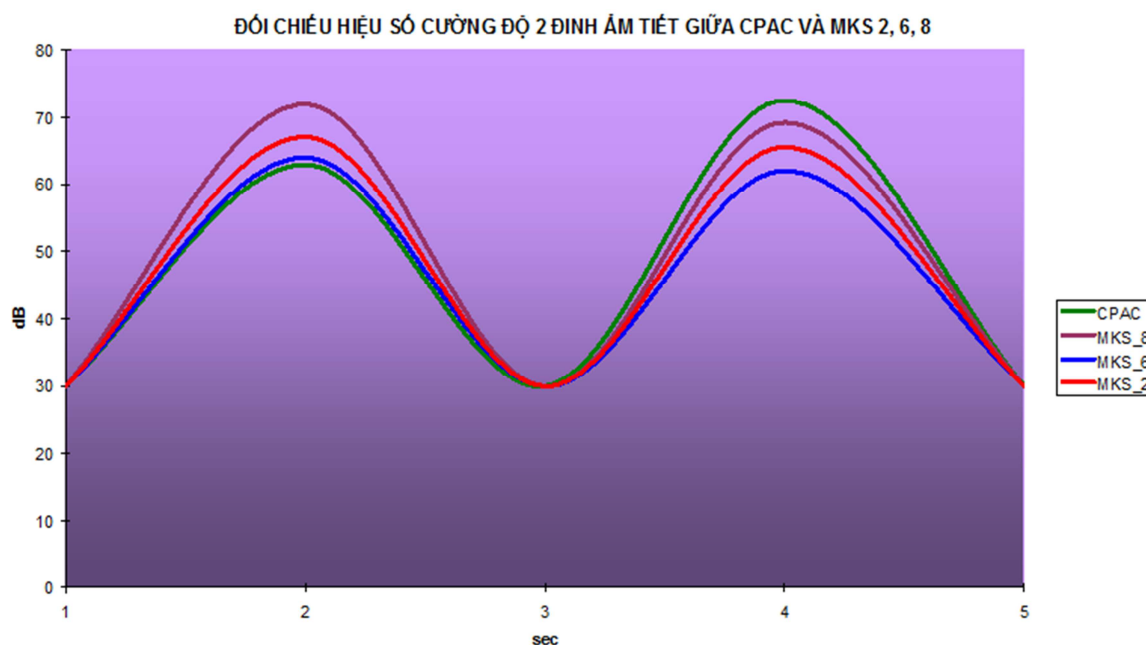

Figure 5. The intensity difference between the 2 syllable peaks of the word [chorale] between RP and IS_2,6,8.

3.2.3. Solution

Rhythm is so important to language with multi-syllabic words that children have to learn the rhythm of their L1 very early in life [[12]]. By the time they reach the age of one, that rhythm is deeply familiar to them, and they will unconsciously apply it to any L2 that they learn (Aoyama et al. 2007). Since English learners will be predisposed to use the rhythm of their L1, it is highly important that they make consciously aware of the English system of rhythm. The basic unit of English rhythm is the syllable. A syllable is most simply explained as something with a vowel sound at its center. And while the number of syllables in a word is usually obvious to a native speaker of English, learners being accustomed to different phonological rules may not hear the syllable divisions in the same way. Since this seriously affects both intelligibility and listening comprehension, time must be spent training students' ears to notice the number of syllables in the words they learn.

Precisely, Vietnamese rhythmic pattern does not have the differences in intensity between stressed and unstressed syllables; on the contrary, English rhythmic pattern has differences in intensity (of course also in pitch and vowel duration). As a result, to be affected by this mother-tongue characteristics, Vietnamese students are not aware of the importance of syllable weight, shown through intensity, the main cue to identify English word stress, which decide the ability to catch the accurate information based on the main syllable of a word, which is not only the stressed syllable but also the tonic syllable in a tone unit. Therefore, teachers should spend more time training students how to count the number of syllable in a word, identify the syllable weight (strong syllable/ heavy syllable = stressed syllable and weak syllable/ light syllable = unstressed syllable) to be able to follow the English rhythmic pattern. Therefore, from the conclusion above, the English stress rules for English multi-syllabic words, are systemized, as follows [[19]].

Morpholofical level of a word				
	Syll able	Grammatical category	Rule	Example
1. Simple	1	Verb, Adj, Noun, Article, preprosition	Single-syllable word: no problems. If they are pronounced in isolation, they are said with primary stress	Car, dog
	2 (pol ysyll abic)	Lexical word — Verb	- Case 1: If the second syllable of the verb contains a long vowel or diphthong or it ends with more than 1 consonant: the SECOND syllable Is STRESSED. - Case 2: If the second/final syllable of the verb contains a short vowel or əʊ and 1 (or no) consonant: the FIRST syllable is STRESSED. - Case 3: There is some *exception* because of being morphological complex	'apply' ə'plaɪ 'enter' 'entə 'follow' 'foləʊ 'permit' pə'mɪt = 'per'+'mit'
		Lexical word — Adj	According to the **same** rules with **V**: 1. ┌─────────────────────┐ │ __ 'LongVow/Dip +2,3 cons │ └─────────────────────┘ 2 ┌─────────────────────┐ │ '__shortVow/əʊ +1 cons │ └─────────────────────┘ *Exception*: ┌─────────────────────┐ │ '__shortVow/əʊ +2 cons │ └─────────────────────┘	'correct' kə'rekt 'lovely' 'lʌvli 'honest' 'ɒnɪst 'perfect' 'pɜːfɪkt *or* 'pɜːfekt
		Lexical word — Noun	**Different** from **verb** 1. If the second syllable of the noun contains a short vowel: the FIRST syllable is STRESSED. ┌─────────────────────┐ │ '__shortVow │ └─────────────────────┘ 2. OTHERWISE, it will be STRESSED on the SECOND syllable.	'money' 'mʌni 'product' 'prodʌkt 'balloon' bə'luːn
		Func tion word — Preposit ion	According to the **same** rules with **V** & **Adj**	
		word — Article		

3 (polysyllabic)	Lexical word	Verb	1.If the final syllable of the verb contains a short vowel and 1 (or no) consonant: the PRECEDING (PRNULTIMATE syllable is STRESSED __'__shortVow +1 cons	'Determine' di'tɜ:mɪn
			2.If the final syllable of the verb contains a long vowel or diphthong or it ends with more than 1 consonant: the FINAL syllable Is STRESSED __ __ 'LongVow/Dip +2,3 cons	'Entertain' entə'teɪn
		Noun	1.If the final syllable of the Noun contains a short vowel or əʊ, the PRECEDING (PRNULTIMATE syllable which contains a long vowel or diphthong or it ends with more than 1 consonant will be STRESSED __ 'LongVow/Dip +2,3 cons shortVow/əʊ	'Disaster' di'zɑ:tə
			2.If the final syllable of the Noun contains a short vowel, the middle syllable which contains a short vowel and ends with 1 consonant, the FIRST syllable will be STRESSED '__ shortVow+1 cons shortVow/əʊ	'quantity' 'kwɒntɪti
			3. Three-syllable simple nouns are different: If the final syllable contains a long vowel or diphthong or it ends with more than 1 consonant, the STRESS will be placed on the FIRST syllable. The *last* syllable si usually quite prominenet so that in some cases it could be said the have *secondary stress. (p 171)* '__ __ LongVow/Dip +2,3 cons	'intellect' 'intəlekt
		Adj	According to the **same** rules with **N** Three-syllable simple Adj: If the final syllable contains a long vowel or diphthong or it ends with more than 1 consonant, the STRESS will be placed on the FIRST syllable. The *last* syllable si usually quite prominenet so that in some cases it could be said the have *secondary stress. (p 171)* '__ __ LongVow/Dip +2,3 cons	'intsolent' 'inslənt
	Function word	Prep	No word	
		Article	No word	

		General rule	Type	Rule	Example
2. Complex	Affix	Affixes have 3 possible effects on wprd stress: 1/. The affix itself receives the primary stress (person'ality) 2/. The word is stress if the affix was not there ((un) 'pleasant)	Prefix	- There is no prefix of one or two syllables that always carries primary stress - Stress in the word with prefix is governed by the same rules as those for word without prefixes. - **Special case**: Word-class pairs: There are several dozen pairs of **two-syllable word** with dentical spelling which different from each other in stress placement, apparently according to word class (**n, v, or Adj**). All appear to consist of **prefix+stem (đầu ngữ+gốc từ)**. Rule: when a pair of prefix-plus-stem word exists, bothe members of whch are spelt identically, one of which is a verb and the other is either a noun or an Adj, the stress will be placed on the second syllable of the verb but on the first syllable of the noun or Adj. (List: Appendix)	1. 'abstract' æb'strækt (v) 'æbstrækt (adj) 2. 'conduct' kɒn'dʌkt (v) 'kɒndʌkt (n)
		3/. The stress remains on the	Suffix	1/. Suffixes carving primary stress themselves: The primary stress is on the first syllable of the suffix. If the stem consists of mpre than 1 syllable, there will be a secondary stress on one of the syllable of the stem. This can not fall on the last syllable of the stem, and is, if necessary, move to an earjier syllable.	'entertain' entə'tein
		stem, not the affix but is shifted to a different syllable ('magnet mag'netic)		Suffix: '-ain', '-ee', '-eer', '-ese', '-ette', '-esque', '-ique'	
				2/. Suffixes that do not affect stress palcement: '-able','-age','-al','-en','-fu','-ing' '-ish' (This is the rule for Adjs, vs with stem of more than 1 syllable always have the stress on the syllable immediately preceding 'ish') '-like','-less','-ly', '-ment'. '-ness','-ous','-fy','-wisw','-y'	'comfort' 'kʌmfət ↓ 'confortable' 'kʌmfətəb! 'replenish' rɪ'pleniʃ
				3/. Suffixes that influence stress in the stem: '-eous', '-graphy','-ial', '-ic', '-ion', '-ious', '-ty'	'photo' 'fəʊtəʊ ↓ 'photography' 'fə 'tɒ (ɑː) grəfi (a) (n)

		4/. <u>The suffixes '-ANCE', '-ANT' '-ARY'</u> - when these suffixes are attached to single-syllable stem, the STRESS is almost always placed on the STEM. - When the stem has 2 syllables the STRESS is sometimes on the *FIRST*, sometimes on the *SECOND* syllable of the stem - If the FINAL syllable of the stem contains a long vowel or diphthongot it ends with more than 1 consonant, that syllable receives the STRESS.	'importance' ɪm'pɔːtns

Compound	Type	Rule	Example
	Stress on the first element	The compound which combine of the 2 nouns	typewriter
	Stress on the final element	Adj -......ed	'Bad-tembered 'Half-timbered
		Number (ordinary or cardinal) -	Three-'wheeler Second-'class
		Compound functioning as adv	North-'East Head-'first
		Compound functioning as Verb and have an adverial first element.	Down-'gate Back-'pedal

Figure 6. English stress rules.

From the table of complicated stress rules above, a brief summary of key points for recognizing the places of stress in English words has been consolidated based on rhythm, melody, word types (simple, compound, complex), word class (N, V, Adj), and the number of syllable with or without affix, as well as syllable structure based on the Rhythmic patterns [[18]]. The foundation of English rhythmic patterns is the existence of the 2 types of syllables: light syllable and heavy syllable, called Trochee: Trochee: Trochaic foot with 1 long syllable (= heavy syllable = strong syllable = stressed syllable) and 1 short syllable (= light syllable = unstressed syllable). Strong syllable is a syllable with initial consonant and a complicated rhyme which consists of final consonant and a short vowel or long vowel or a diphthong as nuclei [[18], p. 125]. On the contrary, a light syllable contains a vowel in the rhyme, with or without onset but no coda, as the first syllable in the word report, about [[18], p. 85].

Therefore, based on the distinction between heavy syllable and light syllable, word class, and the number of syllable with or without affix, as well as syllable structure based on the Rhythmic patterns, the characteristics of stressed and unstressed syllable have been simply systemized as follows: [[19], p. 119 – 124].

- The main characteristics of the unstressed syllable: Syllable containing schwa or short vowel or diphthong /ɪ∪/, ending with not more than 1 consonant.
- The main characteristics of the stressed syllable: the syllable containing long vowel or diphthong or ending with more than 1 consonant.
- Especially, no initial syllable in a verb and no final syllable in a noun, as well as no prefix are stressed.

(i). Simple Words: Multi-syllabic Words Without Affix

(a). Simple disyllabic words: Syllable containing long vowel or diphthong or ending with more than 1 consonant is stressed. Ex: photo ['fʊt∪], chorale [k 'rɔ̂ːl], comfort ['kˉmft].

(b). Simple trisyllabic words, with some special points

- Trisyllabic verb: No initial syllable is stressed. Therefore, syllable containing long vowel or diphthong or ending with more than 1 consonant is stressed. Ex: entertain /[ent 'tein].
- Trisyllabicnoun: No final syllable is stressed. Therefore, the syllable containing long vowel or diphthong orending with more than 1 consonant is stressed. Ex: character ['kːr∩kt], mimosa [m∩'m∪s].

No	Unstressed syllable	Situation	Stressed
1	Syllables containing schwa (ə ɪ ʊ)	The second syllable in the 2 syllabic noun	
2	Syllables containing schwa end with not more than 1 consonant	The middle syllable in the 3 syllabic noun	Initial Syllable
3	Syllables containing short vowel, or schwa, or diphthong /əʊ/	The final syllable in the 3 syllabic noun	
4	Syllables containing schwa or diphthong /əʊ/, end with not more than 1 consonant	The second syllable in the 2 syllabic noun and Verb	
	Stressed syllable	**Position in word**	
1	Syllables containing long vowel or diphthong or end with more than 1 consonant	The second syllable in the 2 syllabic Adj and Verb The final syllable in the 3 syllabic Verb	
	Exception: Unstress syllable	**Situation**	**Stressed**
1	yllables containing long vowel or diphthong or end with more than 1 consonant	The final syllable in the 3 syllabic Adj and Noun	
2	Syllables containing schwa or diphthong /əʊ/, end with 2 consonants	The second syllable in the 2 syllabic Verb	Initial syllable
3	Syllables end with more than 1 consonant	The second syllable in the 2 syllabic Adj	

Figure 7. The main characteristics of the stressed and unstressed syllables in simple words.

(ii). Complex Word: Multi-syllabic Word with Affix
(a). Prefix
- There is no prefix of one or two syllables that always carries primary stress.
- Stress in the word with prefix is governed by the same rules as those for words without prefixes.
- Word-class pairs: The stress will be placed on the second syllable of the verb but on the first syllable of the noun or Adjective.

No	PREFIX: The stress characteristiecs of prefix		Brief
1	There is no prefix of one or two syllables that always carries primary stress		Prefix iss unstressed
2	Stress in the word with prefix is governed by the same rules as those for word without prefixes		Prefix does not affect sressed syllable
3	Word-class pairs	Prefix + 'Root	Verb æb 'strækt
	Ex: 'abstract'	'Prefix + Root	Adj 'æbstrækt

Figure 8. The stress characteristics of prefix.

(b). Suffix
- Suffixes carrying primary stress themselves: (-ain, -ee, -eer, -ese, -ette, -esque, -ique). Ex: entertain /ent ’tein/;
- Suffixes that do not affect stress placement: ('-able','-age','-al','-en','-fu','-ing').
- The stress on the syllable immediately preceding the suffix:

('ish''-like','-less','-ly','-ment'.'-ness','-ous','-fy','-wisw ',’-y')
- Suffixes that influence stress in the stem: ('-eous', '-graphy','-ial', '-ic', '-ion', '-ious', ’-ty')

No	SUFFIX: The stress characteristiecs of suffix	Suffix
1	Suffixes carying primary stress themselves	'-ain', '-ee', '-eer', '-ese', '-ette', '-esque', '-ique'
2	Suffixes that do not affect stress palcement	'-able','-age','-al','-en','-ful','-ing'
3	the stress on the syllable immediately preceding the suffix	'ish''-like','-less','-ly','-ment'.'-ness','-ous','-fy','-wisw','-y'
4	Suffixes that influence stress in the stem:	'-eous', '-graphy','-ial', '-ic', '-ion', '-ious', '-ty'

Figure 9. The stress characteristics of suffix.

(iii). Compound Word: with 2 Roots
In the compound with 2 Nouns, The 1st syllable is stressed. In the other cases, the 2nd syllable is stressed.

No	Stressed syllable
1	The 1st syllable is stressed: Compound with 2 Nouns
2	The 2nd syllable is stressed: The other cases

Figure 10. Characteristics of the stressed syllable in compound words.

4. Conclusion

In short, English word stress can be recognized by the following criteria:
- Syllable structure characteristics: Only strong syllables are stressed. Strong syllables (sometimes called heavy syllable) is a syllable which has a complex rhyme, with two cases. First, a heavy syllable may have a short vowel, but one or more coda consonants. Second, it may have a branching nucleus, consisting of a long vowel or diphthong; such a syllable will be heavy whether it also has a bled coda;
- Word structure: Simple words is based on the syllable structure characteristics to recognize stress. Complex word: no prefix is stressed; Suffixes are stressed and unstressed, change stressed syllable or not. Compound words with 2 nouns are stressed on the first syllable; otherwise, the second syllable is stressed;
- Rhythmic pattern Stress-timed language, with the rhythmic pattern based on the regular repetition of the stressed syllables: Pattern {F = [S W]}, (F = Foot, S = strong, W = weak);
- Intensity: English word stress can be mainly recognized by intensity; therefore, stressed syllable is pronounced with much force, also longer (duration), and higher (pitch).

Remembering the four criteria above helps students prevent from the three main types of stress errors: (1). Rhythmic error (no Rhythmic Pattern {F = [S W]}); (2). Stress placement error; and (3). The combination of Rhythmic and Placement error.

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