Second Language Users'
Understanding of the English Syllable and Syllabification

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Abstract:
As the basic unit of spoken and written language, syllable and syllabification are important concept for students to grasp since dividing syllable correctly determines the correct pronunciation of words. As phonological building blocks of words, understanding English syllable and learning to demarcate words into their rightful constituent are necessary skills students must acquire as this goes a long way to influence how competent they can use English language. Therefore this article is an investigation on how students of higher institutions use syllable and syllabification in both spoken and written words. One hundred students were drawn from Federal University, Lafia, Nasarawa State, Nigeria and were served questionnaire. The outcome of the result reveals that about 80% of the subjects do not know much about syllable and syllabification neither do they apply the rules of syllable and syllabification both when speaking and writing in English Language. Therefore, the work recommends that, the teaching of this aspect of prosodic feature of the English language should commence early to all learners of the language for effective use of the language.

Keywords: Syllable, Syllabification, English, Learning, Effective, Principles, Rules

1. Introduction

The syllable plays an important role in spoken English. Akere (1987: 16) states that the syllable "serves as the locus of operation for supra-segmental (prosodic) features". It greatly influences the rhythm of the language, its poetic meter and stress patterns. As the basic units of words, syllables are often considered the phonological building blocks of words. Studies reveal that understanding the concept of syllable and syllabification rules does not only help non-native English learners to master phonics but also plays a vital role in learning to spell, read and pronounce English words correctly.

English Language, with the complexities and inconsistencies in its spellings, vocabulary structure, phonological structure and meaning system (Francis, 1975; Lyons, 2002; Akmajian et al, 2001 etc.), presents various challenges to her non-native users like Nigerians. In the face of these, it is a language that Nigerians cannot avoid even though it is not one of their indigenous languages. The Language is saddled with vital roles such as the official language, language of academia, media, science and technology, etc. With such multi-faceted functions of English in Nigeria, Nigerians have no choice but to rely greatly on this language for the above mentioned purposes.

It is for these reasons that this paper is advocating a thorough mastery of the language of which the understanding of syllable and syllabification is an important part thereof. As it is often said, the beauty of a language lies in the degree of proficiency displayed in its usage by both native and non-native speakers.

The knowledge and correct usage of the syllable/syllabification constitutes one of the troubled areas in the teaching of English language at all levels of education in Nigeria and it is yet to receive adequate attention. Many teachers of the subject shy away from it probably because of its problematic nature and elusiveness. As a matter of fact, even the native speakers of English are not exempted from this problem. This is why Vinagre (2013:23) says,

In some languages, the spoken syllables are also the basis of syllabification in writing. However, possibly due to the weak correspondence between sounds and letters in the spellings of modern English, written syllabification in English is based on etymological or morphological instead of phonetic principles.

This throws more light on the reasons why many non-native English speakers do have problems in this area. Giegerich (1992:169) states that:

As a result, even most native English speakers are unable to syllabify words accurately without consulting a dictionary or using a word processor. The process is in fact so complicated that even scholars usually do not provide much more advice on the topic than to consult a dictionary.

Considering the complexity of this aspect of supra-segmental phonology of English that does not leave out even the native-speakers, this study is an assessment of the knowledge of syllable/syllabification of respondents who are selected students of Federal University Lafia, Nasarawa State, Nigeria. The study attempts to reveal how students at all levels of learning can be helped in mastering the rules of syllabification as an integral part of learning and use of English language.

2. The Concept of Syllable

Britannica Concise Encyclopaedia defines syllable as "segment of speech usually consisting of a vowel with or without accompanying consonant sounds." On the other hand, *Bradford's Crossword Solver's Dictionary* defines syllable as "a unit of organization of a sequence of sounds". Gimson (1989:51) sees syllable as "a unit at a higher level than that of the phoneme or sound segment, yet distinct from that of the word".

Still on what syllable is, Crystal (1991:339) gives a broader view of syllable." That it is usually smaller than a word, but is not always easy to define the number of syllables in a word or to identify where one ends and the next begins". *The American Heritage Dictionary* (2009) makes it clearer by explaining the syllable as "a unit of spoken language consisting of a single uninterrupted sound formed by a vowel, diphthong, or syllabic consonant alone".

From the various definitions, we can infer that syllables can be viewed both phonetically (the way we produce them and the way they sound; and phonologically (by the possible combinations of phonemes).

3. Types and Structure of Syllable

The syllable in an English word is usually identified in terms of number, weakness or strength and structure.

4. Example of Types

Word	Number(s)	Name
Dog	1 syllable	Mono syllable
Wa-ter	2 syllables	Disyllable
En-ter-tain	3 syllables	Trisyllable
Im-pos-si-bili-ty	More than 3 syllables	Polysyllable

Table showing words, number(s) and names of English syllable

Structure of Syllable
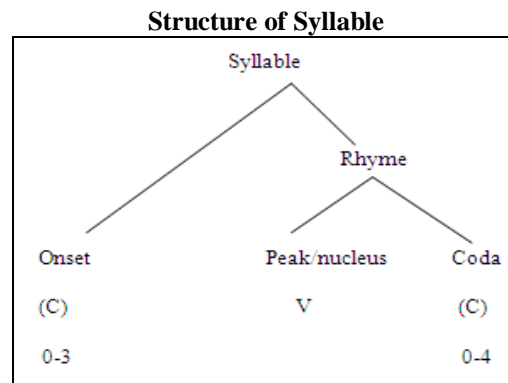
The v = vowel is the obligatory element while the c = consonant is an optional element in the structure of English syllable. Therefore the structure of an English syllable could be any of the following as the case may be.

- CV = Consonant Vowel
- V = Vowel only
- CVC = Consonant Vowel Consonant
- VC = Vowel Consonant

5. The Concept of Syllabification

Syllabification is a general property of the rules that govern the way in which strings of words are divided into syllables. The rules are otherwise known as syllabification rules. Stephen, (2000:57) In other words, syllabification is the separation of a word into syllables whether the words are spoken or written. It could be further explained as the art of forming or dividing words into syllables.

In some languages as earlier noted, the spoken syllables are also the basis of syllabification in writing. This is not the case in English because of the weal correspondence between sounds and letters in the spelling of modern English words. Therefore written

syllabification is based mostly on etymology or morphology and not phonetic principles. As a result of this, even native speakers sometimes depend on the dictionary and word processor to accurately syllabify words.

In English, separation of syllables is usually marked by a hyphen (-) when using orthography, e.g. Syl-la-ble and with a period (.) when transcribing in IPA e.g. /Sil. ə.bəl/. At the end of a line, a word is separated with a hyphen into parts conventionally called syllable. Therefore moving part/parts of a word to the next line is not to be done arbitrarily. For instance, it is possible to divide the word "learning" into lear-ning. Seeing only "lear" at the end of a line instead of "learn" might mislead the reader into pronouncing or understanding the syllable wrongly.

That is why O'Connor, (1984:91) opines thus: "If you stress the wrong syllable, it spoils the shape of the word for an English hearer and he may have difficulty in recognising the word"

This is also true about wrong syllabification. When a word is wrongly syllabified or divided at the end of a line, it becomes virtually difficult to make sense out of the segment(s). This brings us to the point that we must quickly assess the opinions of phonologists on the general problem associated with the theories and principles of syllabification.

6. Theories/Principles of Syllabification

According to Roach (2000:16), "Deciding on the division of a syllable is a controversial issue. No single rule will tell us what to do without bringing up problems''. On his part, Giegerich (1992:169) infers that:

Syllable boundaries are notoriously difficult to judge by intuition, one reason being that – like all non-phonemic information they do not constitute a kind of knowledge of the language that speaker ever need to draw on consciously in the construction of utterances.

Without mincing words, the rules governing syllabification in English are indeed complicated. Therefore before outlining some of the widely accepted rules for syllable division, there are certain theories and principles that phonologists have propounded that are relevant and useful to this subject matter.

7. These Theories and Principles Include

7.1. Sensory Theory

According to the prominence theory which is based mainly on auditory judgments, the number of syllables in a word is determined by the number of Peaks of prominence. In other words, this theory states that a single syllable must correspond to the number of peaks in the flow rate of pulmonic air. This implies that, the pulses of pulmonic airstream in speech usually correspond to peaks in sonority. Below is an example as cited by Giegerich (1992:168).
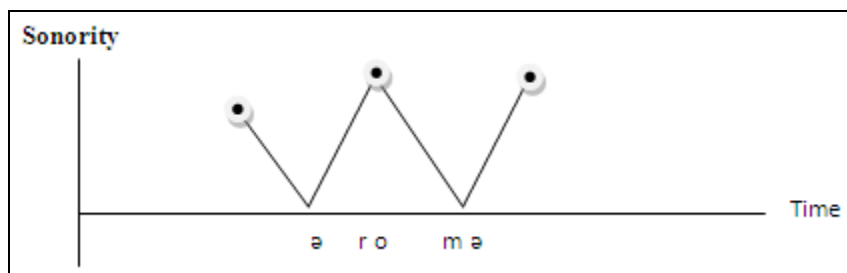
In the above example, the sonority scale is able to predict that the word "aroma" has three syllables a-ro-ma. But as noted by Giegerish (1992 :168) "the theory does not tell us where precisely, a syllabic boundary is located". Davenport and Hannah (2010: 76) discuss how to determine syllable boundaries. However, this theory does not resolve the problem of syllable boundary.

7.2. Chest Pulse Theory

Chest pulse theory discusses the syllable in the context of muscular activities and lung movements in the process of speech. According to the theory, experiments have shown that the number of chest pulses accompanied by increase of air pressure can determine the number of syllables produced.

Eka (1996:103) explains this theory further by saying," According to the purse theory, when the pulmonic air stream mechanism is in action…the resulting puffs 0f air then constitutes the basis of the syllable. The syllable from this viewpoint then becomes an audible movement called a chest pulse, breath pulse or syllable pulse." This theory further claims that, in any utterance, there are a number of syllables uttered.

Obviously, this theory is unable to substantiate clearly where one chest pulse stops and where the next commences in a word of more than one syllable.

7.3. Maximal Onsets Principles

This principle states that where two syllables are to be divided, any consonants between them should be attached to the right hand syllable, not the left, as far as possible. Going by this principle, Roach (2000:78) argues that:

The maximal onset principle must therefore also be modified to allow a consonant to be assigned to the left syllable to prevent one of these vowels: i, e, æ, ʌ, ɔ, u from occurring at the end of a syllable.

For instance, the word "better" based on the principle will be divided thus: be-tə which means the first syllable is given as /be/ instead of /bet/ = /bet-ə/. Another example is the word "extra" as in e.kstrə going by the consonant / k/ must be added to the left to give us ek.str∂ as against the maximal onsets principle.

There are other suggested theories and principles by phonologists but due to lack of space we may not look into them. But the ones reviewed above are to further buttress the point that syllabification has generated quite a number of different opinions.

8 Empirical Data

As earlier noted, this work assesses the competence of students of higher institutions (Universities) in Nigeria with respect to the English syllable and syllabification rules. The research problems were encapsulated in the questions and experiments the respondents were involved in through the questionnaire.

9. Sampling

The sampling approach which involves "working with more limited data from a sample or subgroup in a given population" was employed. "Only then can data be efficiently and practically collected and organised" (Brown,1988:77). Specifically, the stratified random sampling method was chosen because it affords the opportunity of not limiting the investigation or assessment to only undergraduate students of B.A. English but also those of other disciplines.

Thus, 100 undergraduate students were sampled from Federal University Lafia, Nasarawa State, Nigeria. They were drawn from the Departments of English, Political Science, Sociology and History.

10. Data Collection

A questionnaire consisting of 20 items was administered. It was divided into four sections. Each of the sections required the respondents to demonstrate their knowledge of syllable and syllabification rules seen in the presentation of results below.

11. Presentation of Results

Question	Total	Yes	No	No Resp.
Do you know what a syllable is?	100	93	07	-
Do you know what is syllabification?	100	40	56	4
Do you usually have difficulty dividing words into syllable boundaries?	100	54	43	3
Do you normally observe syllabification rules in speaking and writing?	100	45	44	1
At what level of education were you taught syllable/syllabification?	100	Primary Sch. 06	Secondary Sch. 69	Tertiary 25

Table 1: Assessing the Respondents' Level of Exposure to the Study on Syllable/Syllabification.

word	Total respondents (%)	Correct answer	Wrong answer	No response
Intonation	100	71	29	-
Government	100	72	28	-
Orderly	100	64	35	1
Energy	100	63	37	-
Suggestion	100	78	22	-

Table 2: Identification of the Number of Syllable in Each Word

Word	Total	Correct responses	Wrong responses	No responses
Memorable	100	13	84	3
Literature	100	31	65	4
Photographer	100	43	55	2
Strategic	100	77	23	-
Impossibility	100	06	90	4

Table 3: Showing Identification of Syllable Boundaries in Each Word:

Word	Total	Correct responses	Wrong responses	No responses
Calculator	100	65	31	4
Challenge	100	28	70	2
Dealt	100	42	56	2
Foreign	100	28	70	2
Mathematics	100	05	85	10

Table 4: Showing Division of Each Word into its Required Number of Syllable(S) and Correct Syllable Boundaries

12. Discussion of Results

Table I shows that majority of the respondents 93% claimed to have knowledge of syllable. On the other hand, only 40% admitted to have an understanding of what syllabification is all about. This implies that, the teaching of syllable especially in our secondary schools does not extend to syllabification. This explains why several Nigerians do find it difficult to know how many syllable(s) a word has and find it even more tasking to know the exact boundaries of each syllable in a word. Neither do they know where exactly to divide a word at the end of a line. Majority of the respondents agreed to have problems with this aspect as shown in table I above.

In table II, the summary of the results reveal that 63% – 78% which are the majority can tell the number of syllables that exist in a word as several of them made good guesses. In consonance with the table II result, many English users can rightly predict the number of syllables in a word. But the uphill task is being able to state where one syllable ends and where the next starts. This leads us to table III.

Table III scores show a poor performance as 84% – 90% of the respondents were unable to state correctly the number of syllables and syllable boundaries of the given words in the questionnaire served to them. For instance majority of them ticked:

Mem-or-able, memo-rab-le, me-mo-ra-ble instead of =mem-o-ra-ble.

Lit-era-ture, lit-ter-ature, li-te-ra-ture instead of =lit-er-a-ture.

Str-ate-gic, stra-te-gic, st-ra-te-gic instead of =strat-e-gic.

In table IV the worst performances were recorded as shown by the figures. The result is not surprising because the respondents were asked to divide or syllabify the given words themselves into their syllabic constituents. For "Mathematics", only 5% of the total respondents got it correctly while the rest failed. Also, for the word "foreign" only 28% got it right, others syllabified the word thus: Fo-reign, fore-ign, fo-rei-gn, foreign as a single syllable as against = for-eign.

The implication of these results is that, it shows that most of the respondents are yet to have a full grasp of the English syllable and the rules of syllabification, including those who are studying English. Hence, this reflects in their poor usage or expression of English both in speaking and writing.

13. Syllabification Rules and End-of-Line- Divisions

As earlier noted by Roach (2000:77) "there is no single rule to handling the syllabification of English words". In the same vein Jones (2007:9) asserts that, "No completely satisfactory scheme of syllable division can produced-all sets of rules will throw up some cases which cannot be dealt with properly" However, the following rules are outlined as a guide on how to go about the syllabification and end-of-the-line division of words as proposed by phoneticians.

Rule 1

Every syllable has one vowel sound

Rules 2

A one syllable word is never divided e.g.

Stop	/stɔːp/
Feet	/fiːt/
cat	/kæt/

Rule 3

The number of vowel sounds in a word equals the number of syllables e.g

Cup	/cɔːp/ 1
Sub-ject	/sʌb.dʒîkt/ 2
Pub-lish-ing	/pʌ.blî / 3

Rules 4

When a word has a "ck" or an "x" the word is usually divided after the "ck" or "x" e.g

nick-el	/nî.kəl/
tax-is	/tæk.siz/

In speech, the word 'nick-el' has the 'ck' on the second syllable. The letter 'x' in the word 'taxi' has two sounds: /ks/ in speech it has the sound /k/ in the first syllable and /s/ in the second syllable.

Rule 5
A compound word is divided between the two words that make the compound word, e.g.:
In-side   /ɪn.səɪd/
Foot-ball   /fut-ba:l/
Head-ache   /hed.eɪk/

Rule 6
When two or more consonants come between two vowels in a word, it is usually divided after the consonant if the vowel is short. E.g
Sis-ter   /sɪs.tə/   but-ter   /b^.tə/   hun-gry /hʌŋ.gri/

Rule 7
When a single consonant comes between two vowels in a word, it is usually divided between the first two consonants. E.g
Drag-on /dræ.gən/   Hab-it   /hæ.bət/
In speech the above words have the consonant sounds /g/ /b/ in second syllable

Rule 8
When a single consonant comes between two vowels in a word, it is usually divided before the consonant if the vowel is long. E.g
Fe-ver / fi:və/   ma-jor   / meɪ.dʒə/   ba-sin /beɪ. ʃn/

Rule 9
When two vowels come together in a word, and are sounded separately, divide the word between the two vowels e.g
di-as-po-ra /daɪ.æ.spə.rə/ di-et   /daɪ. ət/

Rule 10
When a vowel sounds alone in a word, it forms a syllable itself. E.g grad-u-ate /græ.dʒə.eɪt/ed-u-ca-tion /e-dʒə.keɪ.sən/
In speech, the words 'graduate' and 'education' have the consonant "d" sound /d/ in the second syllable with the vowel "u"

Rule 11
A word that has a prefix is divided between the root word and the prefix. E.g   dis-count /dɪs.kaunt/   mis-fit /mɪs.fɪt/   un-tie /^n.tai/

Rule 12
A word that has a suffix is divided between the root word and the suffix. E.g kind-ness /kaɪnd.nəs/ thank-ful /tæək.fəl/   fruitless /frut.ləɪz/

Rule 13
When be, de, ex, and re are at the beginning of a word, they make a syllable of their own. E.g
Be-come /bɪ.k^m/   de-fend /dɪ.fend/   Ex-hale /eks.heil/ re-main / re.mein/

Rule 14
When a word ends in le, preceded by a consonant, the word is divided before the consonant. E.g pur-ple /pə.pəl/ fum-ble /f^m.bəl/ mid-dle /mɪ.dəl/

Rules 15
When a word or syllable ends in al or el, these letters usually form the last   syllable. E.g usu-al /ju:ʒəl/   lev-el /ɛ.vəl/
In speech the above words have the consonant sounds / ʒ / and /v/ in the second syllable.

Rules 16
When '-ture' and '-tion' are at the end of a word, they make their own syllables e.g Pos-ture /pɔ:tsə/   lo-tion /lu.ʃən/

Rules 17
When a word ends in -ly, divide the word before the ending. E.g
es-pe-cial-ly /ɪs.pɛ.sə.lɪ/   rough-ly /r^.flɪ/

Rules 18
When a word ends in the noun suffix '-ant' preceded by a consonant or digraph, divide the word before that consonant or digraph e.g.
as-sis-tant /ə.sɪs-tant/   at-ten-dant /ə.tʒn.dənt/   im-mi-grant /ɪ.mə.grənt/

In speech the words above have silent the first consonant sounds /s/, /t/ and /m/ in the first syllable.

Rule 19
Consonant blends and digraph are never separated. Rest-ing   /res.tɪŋ/
Buch-el   /u.səlb/   Reach-ing / ri:tsɪŋ/
In speech the words above, the /t/, /s/, /ts/ are properly pronounced in the second syllable.

Rule 20
When –ed comes at the end of a word, it forms a syllable only when preceded by "d" or "t" e.g   fund-ed   /fʌn.dəd/   start-ed
/sta.ted/

14. Recommendation/Conclusion
The syllable is a very important part of the prosodic features of the English language. A firm grasp of the structure of the syllable and syllabification rules is required for the effective use of the language. However, this is so far lacking in the performance of most Nigerian users of the language. Evidence from this investigation /reveals the unfamiliarity of respondents with this important aspect of the language. This unfamiliarity exhibited by the respondents translates to the lack of understanding of the concept by supposedly more qualified users of the language, namely teachers of English, who do not demonstrate their proficiency in the area. As it has been stated above, teachers of the language as school subject pay little or no attention to the syllable and syllabification rules, especially at the secondary school level. By the time the learners get to the tertiary level, with their language habits firmly formed, it becomes quite difficult imbibe a new understanding of the processes.
For the understanding of the English syllable and syllabification rules to be attained by the learner, the teaching of this aspect of the phonology of the language should commence early, at the secondary school or earlier, and be given adequate attention. The teachers of the language should by themselves become conversant with the English syllable to be able to teacher others for a teacher cannot give what he/she does not have.

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