Computer-assisted Programme for the Teaching of the English Syllable in RP Allophonic Pronunciation

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1. Introduction :

Native speakers of English from different parts of the world have different accents,but the differences of accents are mainly the result of differences in the sound of vowels and consonants . The actual use of all these sounds in combination leads the speaker to produce a number of segments which only appear on the production level and realized on the perceptual one . RP pronunciation represents the teachable variety in all Iraqi universities because it is the most acceptable and understandable accent all over the world and not only in South East London ..The structure of the English syllable in RP pronunciation is influenced by the appearance of certain allophones especially aspiration and glottalization which change the form of CV in RP pronunciation.

This study is a new experiment to show how chapter 8 & 9 (the English Syllables)in Roach's book Phonetics & Phonology (2002) have been taught to the second stage ,department of English ,College of Languages through a computer programme and how certain allophones have changed the form of CV system in the structure of the English "syllable" in RP through the use of narrow transcription .

2. Definitions

The term 'syllable', in its broadest sense, is studied from the phonetic and phonological point of view since it represents one of the basic components in phonetics and phonology. However, the syllable theories are based on evidence taken from different fields of knowledge such as psycholinguistics which involves the study of child language acquisition and language universals(Fallows ,1980:76).

Roach (2002:66) states that the syllable is a fundamentally important unit in both phonetics and phonology.

Crystal (1989: 164) defines the syllable as " an element of speech that acts as a unit of rhythm, consisting of a vowel, a syllabic consonant or vowel / + consonant combination ". On the other hand, Hancock (2003: 50) beliefs that a syllable is often described as a group of one or more sounds with a peak or nucleus.

Phonetically speaking, the air pressure is most noticeable in the nucleus. The hearer may distinguish the central part of a syllable because it has more prominence than the surrounding sounds, but people often have difficulty in hearing when one syllable ends and another begins, for example, the word "bitter"[b'**I**tə] may be heard as (bi-tter, bit-ter or bitt-er).

Phonologically speaking, a syllable is defined as the way in which vowels and consonants combine to form various sequences (the study of the location of sounds in sequence is called phonotactics) . Vowels can form a syllable on their own or they can be the " centre or nucleus " of a syllable , e.g. [e] in bed [b ˈed],I [a**I**].

In addition, some consonants like / m, n, ŋ , l / are called syllabic consonants since they function as syllables in final position and also we have what is called " minimum syllable ", as in [ˈm] to show agreement and [ˈʃ] to keep someone quiet and these are consonant sounds, but they have meaning. (Roach, 2002: 76).

Roach (ibid: 66) divides a syllable into two parts onset plus rhyme (hence nucleus & coda). For example, sit consists onset[s]+nucleus[**I**]+coda[?t]]; therefore [**I**] + [?t] represent the rhyme part of the syllable as in fig ure 1

[sI?t]

Onest Rhyme

[s] [**I**?t]

nucleus coda

(termination) **Figure (1)**

[I]

[?t]

The proposed definitions of the term "syllable" can be divided into three types: phonetic, phonological and phonotactic.

Phonetically, a syllable is usually described as consisting of a centre which has little or no obstruction to the flow of air out of the mouth and which sounds comparatively loud and before and after this centre. (Abrecrombie, 1989:39; Roach, 2002:67).

Phonologically speaking, a syllable is defined by Laver (1994:39) as "a complex unit made up of nucleus and marginal elements". Nucleus elements are the vowels or syllabic consonants. In the 'one word syllable' try [tr'a**I**] the diphthong /a**I**/ is the nucleus element; while the initial consonant cluster which consists of [t] and [r]are the marginal elements.

A number of scholars suggest that the term "syllable "should not be used in either a phonetic or a phonological sense, but it should refer to a linguistic unit composed of phonemes that are arranged according to certain phonotactic criteria. McCarthy (1978:107)

3. Significance of the Syllable

For Crystal (2003:447) "The syllable is important in phonology in relation to prosody, and cross-linguistic studies of rhythm .In the distinctive features theory of phonology 'syllable' is used to replace the syllabic nucleus".

Likewise, Bolinger (1975:56) emphasizes that the syllable obtains much of its obviousness because of the role it plays in rhythm, i.e., when people segment the stream of speech and give it a rhythm of strong and weak beats, as in music. In addition, the best justification for ending the structure of sound–units at the level of the syllable is that anything higher is almost necessarily related to the meaning and the structure of the language.

It is necessary to mention that the significance of syllable has increased especially in models of non–linear phonology in relation to derivation .In addition,

a syllable plays a role in prosodic morphology as being "a level above the 'mora' and below the 'foot'- the unit of rhythm in languages" (ibid.).

Finch (2000:68); and the Free Encyclopedia (2005:Int.) state that syllables serve in carrying the stressed patterns of English which are essential to the way in which speech is organized.

O'Connor (1973:201) explains the importance of the syllable when he affirms that "the syllable is useful as the largest unit one needs to consider in explaining how phonemes are permitted to combine together in a language".Moreover, Smith and Wilson (1980:141) also refer to the importance of the syllable in the need for something larger than a phoneme and smaller than a word.

4. The Syllable : Various Theories

A number of studies have been made to explain theories of syllable. Phonetically speaking, one of the most important theories is "the chest pulse theory" which tackles the syllables in the context of muscular activities and lung movements in the process of speech. Experiments which have shown that the number of chest pulses, accompanied by the increase of air pressure, can determine the number of syllables produced, thus, allowing associate with the number of chest pulses. (ibid.56)

This theory, however, can not account for cases when two vowels occur one after another, for example, in words like being [b'i:**I**ŋ] the second chest pulse must be almost irrelevant and thus leads erroneously to the conclusion that such English words consist of one syllable only. (Roach, 2004:1)

Another well-known theory is 'the prominence theory', which tackles the syllable from a phonological point of view and depends on auditory judgements, i.e., the number of syllables in a word is determined by the number of peaks of prominence. In the word beautiful,[bj'u:?t**I**f**ʊ**l], for example, the peaks of prominence are represented by the vowel phonemes /u: , **I** ,**ʊ**/, respectively.

However, this theory does not help much in the problem of division of the syllable (Gimson, 1989:52).

Another theory is the "Sonority theory" in which "the pulses of pulmonic air stream in speech correspond to peaks in sonority". The sonority of speech of a sound is seen as its relative loudness compared to other sounds. Each syllable corresponds to a peak in the flow rate of pulmonic air. Thus, the nucleus elements or syllabic segments are described as intrinsically more sonorant than marginal or non-syllabic segments.Speech sounds can be ranked in terms of their intrinsic sonority according to sonority scale as in figure(2) (Rogers,2000:268).

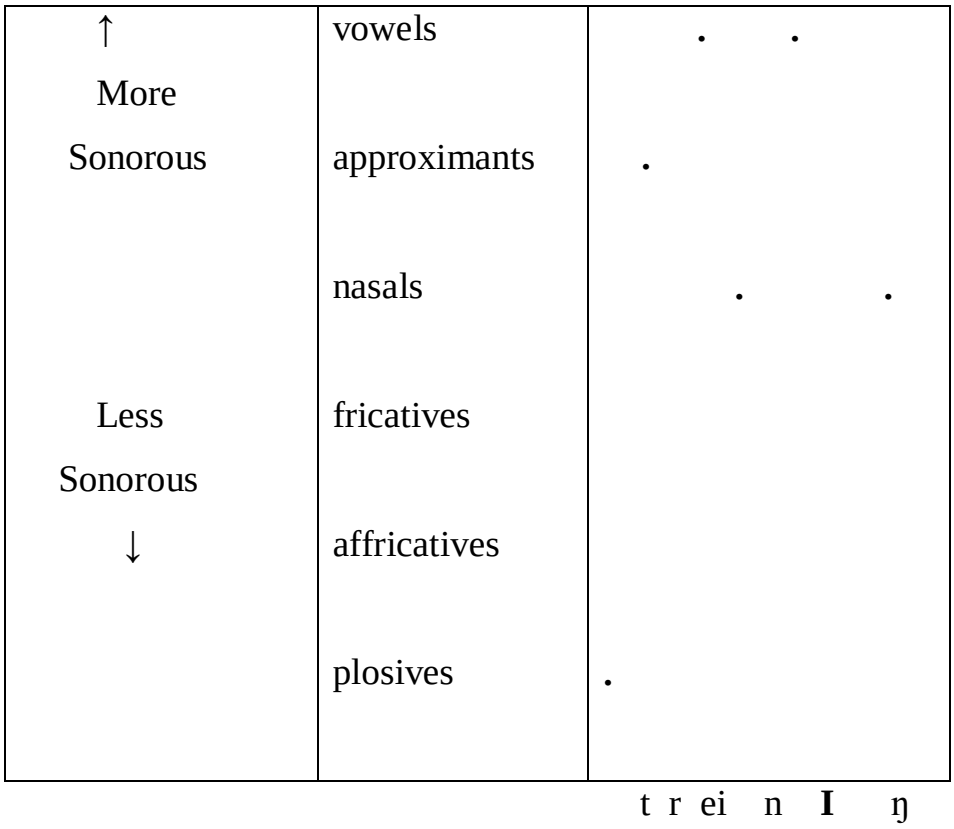

Figure (2): The Sonority Scale of the Word Training [tr'eInIŋ]

(after Roach 2004:2).

In the above figure two peaks of sonority can be seen in the linear sequence of phonemes **/tr-eI-n-I- ŋ/**i.e., the diphthong /**eI** /and the pure vowel / **I** /.Thus, the number of syllables is two (ibid).

5 . English syllable: Nature of Structure of patterns .O'Connor, (1973:201) states that the nature of a syllable structure varies from one language to another since there is no universal phonological syllable. The phonological view of the syllable requires a separate definition for each language. However, Malmberg (1963:1), among other phoneticians, believes that a syllable consisting of a consonant plus a vowel is the only one which is general for all languages.

There are two types of English syllable structures which can be classified into two types: a phonetic syllable structure and a phonological one.

5.1 Phonetic Syllable Structure :

The phonetic syllable structure consists of three phonetic parts: the onset, the peak and the coda (Hyman, 1975:188). Sequences of segments within a phonetic syllable depend upon an inherent hierarchical scale of sonority. The most sonorous segment occupies the nucleus and farther from the nucleus on either margin the least sonorous, the sounds will be optional consonants (Hawkins, 1984:66). On the other hand, the phonological syllable structure displays the following pattern of arrangements: 0, 1, 2, 3 consonants +V + 0, 1, 2, 3, 4 consonants. This pattern means that a syllable consists of a vowel(V)which is preceded by zero, one, two, three, consonants and followed by zero, one, two, three, four consonants as in[ˈa**I**] [t^h ˈi:],[tr ˈa**I**],[str ˈi:t],[**I**n], [i:?t],[g ˈa:dn] ….etc. (O'Connor, 1973:229).

5.2 Phonological Syllable Structure :

Moreover, as for phonological theories of syllable, they are mostly concerned with the internal structure of syllables .In this respect, phonologists have adduced every possible configuration for the internal structure of syllables. For instance, the main concern of CVC syllables is whether the vowel is grouped with the prior consonant (called the onset) or with the posterior consonant (called the Coda) or with neither.

More recently, some phonologists have claimed that the components of the syllable are units of weight called 'Moras' (Hyman, 1982:9) .

Two parts can be found in the internal structure of the syllable. These parts are onset and rhyme; with the rhyme, nucleus and coda are found .It is important to point out that not all syllables have these parts; the smallest possible syllable contains a nucleus only .Simply, onset means the beginning sound(s)of the syllable which precede the nucleus and coda means the sounds at the end of the syllable which follow the nucleus. These are always consonants in English (Roca and Johnson, 2000:239). Vowels and consonants do not act alone, but there are very few words-like which consist of only one sound, for instance, (I, eye, oh, m (to show agreement), or, are….etc.)(ibid.)

Accordingly, there are four patterns of syllables.They are: (ØVØ), (CVØ), (ØVC) and (CVC). In this case, a syllable may be a vowel only, viz. the pattern (ØVØ), as in or ['ɔ:], this kind of syllable is known as a 'minimum syllable'. The syllable which is not closed by consonant, viz. the pattern (CVØ) as in be [b'i:] is called an "open syllable".

Phonetically speaking, syllables consist of a centre, which has little or no obstruction to air flow and before and after this centre, there may be greater obstruction as in eye ['a**I**], in ['**I**n]. more [m'ɔ:]. But phonologically, consonants always occupy the margins of the syllable structure, and it happens that a consonant occupies the nucleus of the syllable as in syllabic consonant' (Gimson, 1989: 54).

6. English Syllables: Major Types

6.1 Simple Vs Complex Syllables

English syllables are classified into simple and complex according to their structure.. The simple syllable consists of a nucleus only or a nucleus with one consonant preceding it and /or another consonant following it. Consequently, the simple syllable has the structures: V, CV, VC and CVC as in "I" ['a**I**] , 'knee' [n'i:] , 'if'['**I**f] and dog[d'ɒg]. Other types of syllables are complex, i.e., they have cluster(s) of consonants before and /or after the vowel (ibid.).

Concerning the longest complex monosyllable English words, the following is a list of some of the nine- letter English words which have (7) sounds that each consists of a single complex syllable:

Table 1

Nine – letter Monosyllabic words in English

The word	narrow Trans.	syllable structure
scratched	[skr'æ?ʧ t]	CCCVCCC
straights	[str'e**I**?ts]	CCCVCCC
stretched	[str'e?ʧt]	CCCVCCC
scrounged	[skr'aʊndʒd]	CCCVCCC
scrunched	[skr'ʌn ʧt]	CCCVCCC
strengths	[str'eŋθs]	CCCVCCC

6.2 Open vs. Closed Syllables

Syllables are divided into open and closed according to the ending of the syllable. Open (free) syllables are those that end with a vowel or diphthong, i.e., they end with ‘nuclei’. Closed syllables (also called complete or blocked) are those that have at least one consonant following the vowel, i.e., they end with 'coda'. (Hartman and Stork, 1976:228)

Thus, closed syllables are those that have a branching rhyme while open syllables have a non-branching rhyme (Roach et al., 2004:Int.).The most common closed syllable has the structure CVC as in ‘died’ [d'aId]. This type of syllables, that has the CVC structure, is thought to be a subsequent innovation of the open syllable CV (Brosnahan and Malmberg, 1970:210). On the other hand, the most common open syllable has the structure CV, as in ‘we’ [w'i:] , the CV (a consonant followed by a vowel) structure, which is not closed by another consonant, is

regarded as a basic phonological unit in all languages since relatively all languages have it in their structures and may be the first systematic utterances of children are expected to be of this form (Hogg and McCully, 1989:36).

Cox et al., (2004:Int.) show the different structures of each type in English monosyllabic words as illustrated below:

Table (2)

Open and closed Syllables

(A). Closed syllables		
VC	is	['iz]
VCC	end	['end]
VCCC	ants	['ænts]
CCVCCCC	prompts	[prompts]
CVC	moon	[m'u:n]
CVCC	jump	[ʤ ʌ mp]
CVCCC	hands	[h'ændz]
CVCCCC	sixths	[s'Iksθs]
CCVCCC	plants	[pl'ænts]
CCVCCC	twelfths	[twelf θ]
CCCVC	strong	[str'ɒŋ]
CCCVCC	springs	[spr'Iŋz]
CCCVCCC	splints	[spl'Ints]
(B.) Open syllables		
V	or	['ɔ:]
CV	sea	[s'i:]
CCV	through	[θr'u:]
CCCV	screw	[skr'u:]

6.3 Strong Vs Weak Syllables

Phoneticians have found that it is useful to make a distinction between syllables that have more prominent nucleus and less prominent nucleus .In this respect they divided syllables into strong and weak syllables.

Smith (1982:10) refers to strong syllables using the terms "heavy" and "long", and to weak syllables using the terms "light" and 'short". These two types of syllables can be described in part in terms of stress since they are closely associated with this aspect. Also, in a polysyllabic word there is always a syllable with primary stress; this syllable is called a "strong syllable". Syllables that have no stress are known as "weak syllables" (Singh and Singh 1979:170).

Crystal (2003:493) states that syllables can be metrically "heavy" or "light":- a light syllable is one whose rhyme comprises a short vowel nucleus alone or followed by a coda of no more than one short consonant, thus it has the structure CV or CVC.

In fact, English puts certain restrictions on the structures of strong syllables .They can be open only if they contain a long vowel or a diphthong and only a closed strong syllable may have a short vowel. In other words, long vowels and diphthongs can occur in both open as in 'sue' [s'u:], 'bay'[b'eI] and closed as in 'bean'[b'i:n]and 'eight'['eI?t]which constitute strong syllables, whereas short vowels occur only in closed ones as in 'cat' *[*k^{h}'æ?t*]* and 'ill' *[*'Il*]*(Roach et al., 2004:Int).

Generally, strong syllables can have in its centre any long vowel, like the first syllable of the word 'father' [f'a:ðə] or diphthong as the first syllable of the word 'daily' [d'eIlI] except the vowel [ə], whereas weak syllables can only have the following types of nucleus (Roach, 1999:76):

A. Short Schwa

Schwa is symbolized as /ə/, which is the most common unstressed vowel in English. This vowel occurs initially e.g. 'alive' [ə'a**I**v], medially e.g. 'forget'

[fəg'e?t] and finally as in ‘cinema’ [s'**I**nəmə]. Many English words have one stressed vowel and a schwa in their unstressed syllables as in ‘purpose [p'ə:pəs], ‘elephant’ ['el**I**fənt] and ‘tremendous’ [trəm'endəs] (Kreidler, 2003:80). Actually in English, there are words that have two forms in pronunciation: one with short schwa (the weak form) and the other with some other vowels like / **I** /, / æ / and / ɒ/ instead of this schwa. For example, ‘of’ has the weak form [əv] and the strong form ['ɒv] (Wells and Colson, 1981:24).

B. The [i, u] vowels

Roach (1999: 77-8) illustrates that the weak syllable can have one of two other vowels as its centre. The first is a vowel that occurs in the general area between /i:/ and **/I**/ while the second one lies in the region between /u:/ and /u/. Here, unlike the case with strong syllables, there is no clear borderline between the long and short forms of each vowel in weak syllables, i.e., no one can tell which vowel one realizes in words like ‘easy’ or ‘busy’. Wells and Colson (1981:22) argue that these vowels are more like the long forms when they come before another vowel and they tend to be shorter when they precede a consonant or pause. Thus, a different (or a third) vowel is introduced symbolized as [i] in the first example and [u] in the second one. As a result, the words ‘busy’,‘easy’ and influence are transcribed as [b'**I**zi] ,['i:zi] and ['**I**fluəns] respectively. Some other examples are the [i] in ‘happy’ /hæpi/; ‘valley’ [væli] and [u] thank you [θæŋkju] and ‘coffee’ [kɒfi] (ibid.).

C. Syllabic Consonants:

Laver,(1994:114) pointed out that “the syllable must have a compulsory constituent in its structure, i.e., the nucleus, which consists of a vowel (pure or diphthong”). The exception to this rule is syllabic consonants. Those are the lateral sound [**l̩**] and the nasals [**m̩**], [**n̩**], [η̩] in which each consonant can form a

syllable. The English syllabic consonants in RP symbolized by vertical dash[ˌ], written under the sound as in ‘bottle’ [b'ɒtl̩]; ‘bottom’ [b'ɒtm̩]; ‘garden’/g'a:dn̩/and ‘thicken', [θ'Ikŋ̩]but /θ'Ikn̩/, is also possible)(Jones,1984:55)

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7.1 Syllabication

Pulgram (1970:40) defines syllabication as a phonotactic operation which is performed in conformity with the distributional criteria of the language under analysis (CF.Hans, 1981:257). Although it is possible that one can specify the number of syllables in words, it is very difficult to determine syllable boundary placement. (Ladefoged, 1975:218).

Some phonotactic criteria for syllable boundary placement are suggested by a number of phoneticians.

Pulgram (1970:47-51) proposes the following principles:

1. A principle of maximal open syllabicity.
2. A principle of minimal coda and maximal onset.
3. A principle of irregular coda.

As far as the first principle is concerned, a syllable boundary is inserted after every vowel of a word. Thus, words such as rooster and master are syllabified as [rˈʊ.stə] and [mˈæ.stə] so as to make the first syllable open. A problem arises; however, in the form (mæ . stə) since the principle of maximal open syllabicity creates a sequence which violates a sequential constraint in English by which the short vowel /I, e, æ, ɒ, ʊ / are disallowed in word-final position. Since [mˈ æ. stə] contains the vowel / æ/, which doesn’t occur in word finally, it must be resyllabified by the next principle to yield [mˈæs.tə]. A similar motivated readjustment must occur in a second set of circumstances.

Pulgram (1970:40) explains this by stating that:

If the syllable can not be kept open because the consonant or consonants that would form the onset of the next syllable do not occur in word- initial position, then many consonants, as necessary –but not more –to reduce the onset to a permissible word-initial shape, must be detached from it and transferred to the preceding syllable as coda, to close the syllable.

Hence, while employ [**I**mpl'o**I**] would be syllabified [I .mpl'o**I**] by the principle of maximal open syllabicity, this would create a syllable- initial /mpl/ sequence which can not occur in word initially. Hence, the/m/ must be sent back to the first syllable to yield [Im.pl'o**I**] where each syllable now meets the syllable structure constraints of English. Pulgram's final principle is stated as follows:

If the necessary transfer from syllable- initial to syllable-final position leads to a group of consonants, then the burden of irregularity must be borne by the coda rather than the following onset.

Pulgram's principle is further expanded by Fallows (1980:78) who suggests two principles of syllabication: stress and ambisyllabicity. The first principle means that a stressed syllable will attract the maximum number of consonants in both initial and final position. The next principle shows the sharing of an inter-vocalic consonant by the neighbouring syllables. So, a word like begin [b**I**g'**I**n] is syllabified as [b**I**.g**I**n] or [b**I**g.**I**n). It seems that the second division of the word begin [bIg-In] is more acceptable since it is familiar to find English beg and in through the dictionary.

7.2 Rules of syllabification

1- Recognition of certain prefixes and suffixes un-,mis-,dom-,in-.
2- If the first syllable in disyllabic words is a long or a diphthong vowel, it ends the syllable. And the next sound goes to the following syllable.

Example. Writer [r'a**I** . ?tə] o [r'a**I**?t . ə]

3- The syllable division is marked before the schwa /ə/ in triphthongs.
Example.
chaos k[hh]'e**I.**əs]

Note: Division of disyllabic and polysyllabic words should not produce unacceptable consonant cluster in both the onset and coda in English language**.**

4- In **VCV** if one consonant occurs between two vowels and the second vowel is long (stressed or unstressed), the consonant becomes part of the second syllable**.**

Example.

Return [rI ?t 'ə: n] VCV

V C V [rI?t'ɜː n]

| |

Short long

Vacation [v ə.?k 'eIʃ. n]

| | |

V C V

| |

short long

Delay [d**I**l'eI] VCV [d**I.**l'eI]

Example

Windy [w'In**.**dI]

[w'**I**nd**.**I]

But not

[w**I .** nd**I**] English words can not begin with (nd-)

5- In (VCV) if one consonant occurs between two short vowels, and the first vowel is stressed the consonant goes with the preceiding vowel**.**

Example.

[l '**I** m **I**? t] [l'Im**.**I?t]

| |

short short

| |

Stressed unstressed

6- In the intervocalic consonants as in [b] in [h'æb**I**?t] here, the consonant sound [b] is treated as ambisyllabic ,i**.**e**.** ,

[b] can be

To the first syllable ← coda and onset → To the second syllable

Therefore , [b] has dual function**.**

8- The Manipulation of Computer Techniques in Monitoring English Syllables

Studying the English Syllable at the University level practically represents the task of the researcher who does his best to design a comprehensive programme to be used by teachers at the college on one hand and the students themselves on the other hand.

4.3 Procedures for Presenting the Programme

To design the CD programme of this study two steps have followed.

The First step is to select the data which is taught by using computer and the second step is to design the actual CD programme to be a ready-made software for studying the English syllable. As far as the first step is concerned, the data of the present study have taken from chapters "Eight" and "Nine" included in the text-book which is taught at the second year in departments of English under the title Phonetics and Phonology: A Practical Course by Peter Roach: 2002. Some relevant topics have been added to the programme from other books to achieve a comprehensive programme for studying syllables at the university level.

The researcher designed an actual CD programme which presents the content in slides through selective programmes such as Microsoft Word 2003/2007 for writing and power point for making slides and visual Basic 2003 for testing items. Multimedia is also used in this study.

The programme has been designed in three stages which can be summarized as follows:

1- Presentation

After loading the programme into the computer, the content of the programme will appear on the monitor in form of slides. The content is arranged into presentation, application or practice and testing. A learner can click on the button "introduction" to read the main aims and advantages of the programme. On the presentation stage, the learner can click on any topic from the main menu to study it in all its details. In each slide, a number of buttons appeared to give the learner the freedom to choose whatever he likes to do the next. On the left hand, in the bottom, there is a button of reading the material in the selective slide, whereas on the right hand,there is a button of music which he can use while reading the slide silently.

To attract the learner's attention and make the process of learning more interesting, different pictures and colours are used with soft music which accompanied all the stages of programme.

A learner can repeat the material endlessly until he/she is satisfied with the results.

2- Application

After presenting and explaining the contents in words, the learner can click on an icon of application which transfers what has been written in words to a simple tree diagram to combine between theory and practice on the same screen.

3- Testing

The last stage of the programme is a test for the learner to check himself/herself whether she /he understands the material of each item in the main menu or not. Questions have been designed or prepared according to the nature of each item in the topic and its weight in the text-book itself.

4.4 Programme Mechanism

Our programme entitled "the English syllables" has been designed through the use of VB 2005 which has wide spread capacities on educational and productive scientific levels.At first, the mechanism will be explained, illustrated by some electronic windows with its own demonstration, and then a simplified explanation

about the programming language (VB 2005) will be given. (See Figure.3)

Figure 3: The Main Frame of the Programme

The above (Compiled Window) represents the main frame of the programme which has been designed according to Visual Basic Programme 2005, where two buttons **(Introduction, the End)** activate either to introduce the programme or end it.

The effective use of colours, pictures and orthography has been done according to the productive programme entitled **(Adobe PhotoShop CSME)**.

The following designed[1] window shows the aim of our study and a letter to the users to know why this programme has been designed and its effect on the scientific level of the university students in this branch of knowledge (phonetics and phonology). In this window, there will be a button entitled **(Main Menu)** by which one can see and choose the item he / she wants to study of the English Syllables.

Figure 4: Introduction to the Programme

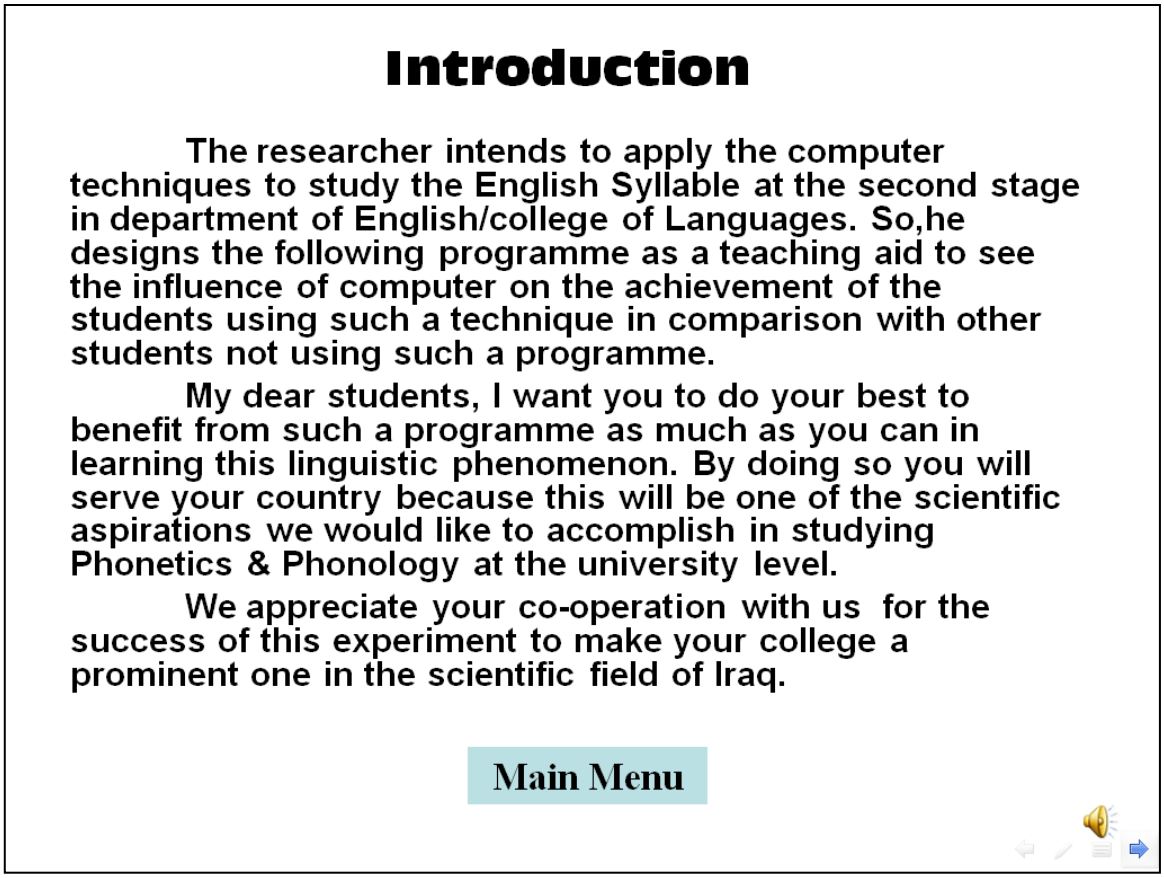

Figure 5: The Main Menu

The above compiled window **(Figure5)** represents (the main menu) where the eight topics that are included in this study (The English syllable) will be shown. Only one example has been taken, that is the First button (Definition: The English Syllable) with its windows represented in the following pages.

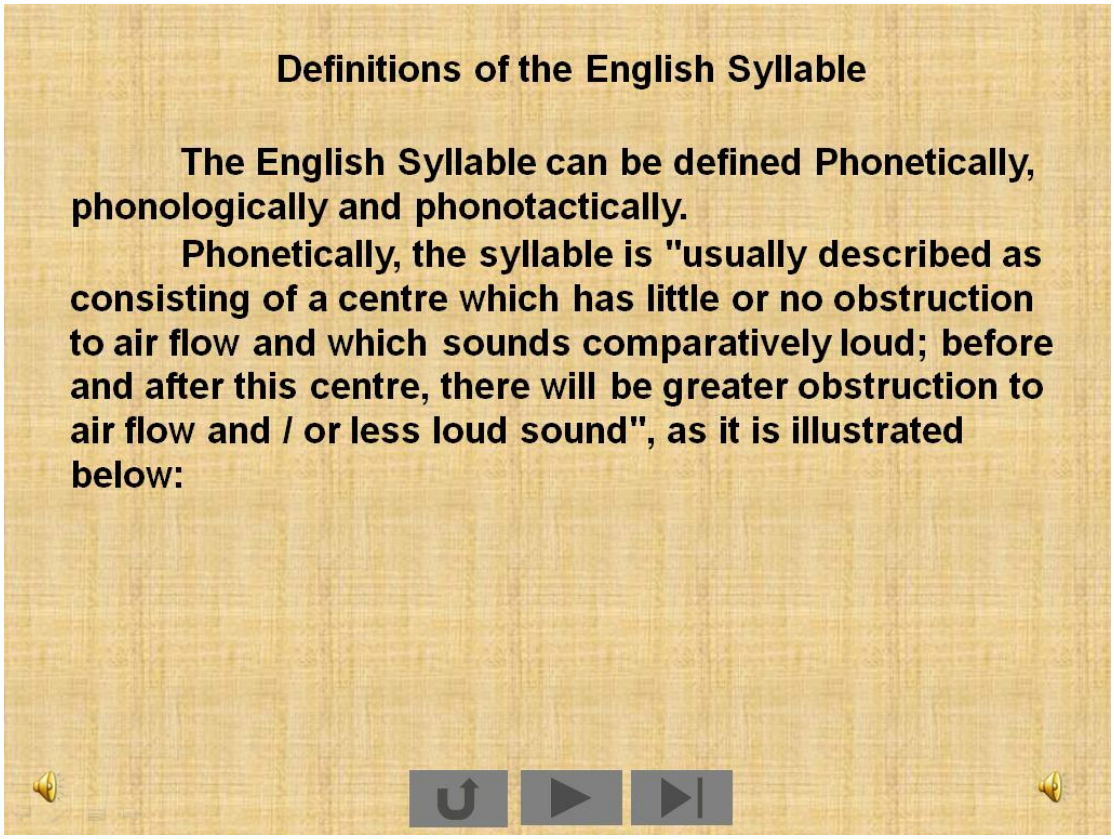

Figure 6: The Electronic Slide of the Definition of the English Syllable

The above frame (Figure 6) represents the electronic slide of the first topic in the main menu where one can see a number of buttons to control sound or another to show the next electronic window that leads to presenting questions about the topic itself.

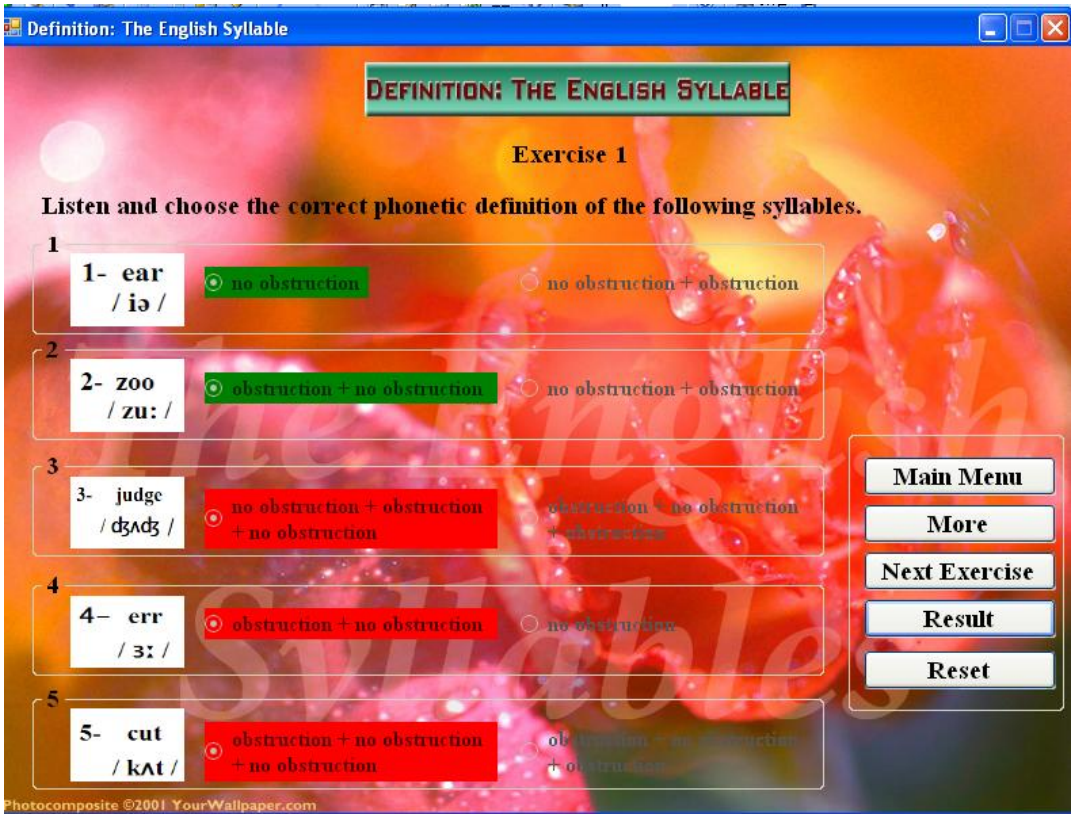

Figure 7: Exercise on Definition: The English Syllable

This window represents as in its full form the first two questions of the first topic where it contains some important buttons repeated in other windows of other topics as follows:

1- (Main Menu): This button leads us to the eight – button window.

2- (More): This button shows us successive choices of the same question.

3- (Next Exercise): This button transfers to the window of the following question of the same topic.

4- (Results): This button examines the results of responses of all the choices of the present question where the green colour shows the correct responses and the red color states the wrong answer

9. Conclusions:

In the light of the empirical evidence revealed in this study and according to the researcher's own observation, the following conclusions are drawn on the theoretical and practical level of this study :

1- Some allophones in RP pronunciation change the form of CV system of the English syllable by using narrow transcription as in put [$p^{h}ʊ$?t] becomes CCVCC but not CVC; text [t^{h}è?kst] becomes CCVCCCC but not CVCCC (Roach, 2009) in a letter to the researcher on Thursday, April 16, 2009, 5: 36 P.M.

Roach says: "It would be true to say those counting phonetic segments in narrow transcription would result in a different number of segments from the number resulting from counting phonemes".

2- Whenever we deal with a particular accent, for example (BBC/RP) narrow transcription must be used to distinguish this accent from other varieties of EngliAccording to the sonority theory of the English syllable, the place of stress must be put above the peak and not on the preceding consonant in the stressed syllables.

whereas, on the practical level, this study shows that: First, the achievement of the experimental group is higher than that of the control group and that is attributed to the application of computer techniques. Secondly, there is an improvement in the level of knowledge of the experimental group between pre- and post test.

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