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EFL Learners Mastery Level of Phonemic Symbols and Broad/Narrow Transcription The Case of Second year Undergraduates Students at Bordj Bouarreridj University

مستوى إتقان متعلمي اللغة الانجليزية كلغة أجنبية للرموز الصوتية والنسخ العريض/الضيق دراسة حالة طلبة السنة الثانية جامعي بجامعة برج بوعريريج

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Abstract:

The present study aims at identifying the mastery level of phonemic symbols together with broad and narrow transcription among EFL Algerian University learners. The researcher worked with 226 second-year undergraduate students of English at Mohamed El-Bachir El-Ibrahimi University of Algeria who were enrolled in the first semester of 2020/2021. To statistically investigate the level of mastery of EFL learners, the researcher adopted the analytical descriptive approach. Two separated tests were conducted at the end of the first two chapters, which were programmed for the first term. Results achieved have shown that the majority of EFL learners failed to acquire the phonemic symbols together with transcription skills in its two levels (phonological and phonetic).

Keywords: Phonemic symbols, broad transcription, narrow transcription, mastery level, phonetics and phonology

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الملخص:

تهدف الدراسة إلى تحديد مستوى إتقان الرموز الصوتية جنبا إلى جنب مع النسخ الواسع والضيق بين متعلمي الجامعة الجزائرية للغة الانجليزية كلغة أجنبية. عمل الباحث مع 226 طالب سنة ثانية لغة انجليزية بجامعة محمد البشير الإبراهيمي، برج بوعريريج للسنة الدراسية 2021/2020 السداسي الأول. اعتمد الباحث على المنهج الوصفي التحليلي من خلال إجراء فحصين منفصلين بعد إتمام محتوى الفصلين الأولين المبرمجين في السداسي الأول. أظهرت النتائج أن غالبية متعلمي اللغة الانجليزية يفشلون في إتقان الرموز الصوتية مع النسخ بمستوييه الضيق والواسع.

الكلمات المفتاحية: الرموز الصوتية، النسخ الواسع، النسخ الضيق، مستوى الإتقان، الصوتيات.

1. Introduction

Phonetics and phonology are branches of linguistics concerned with the study of sounds. Phonetics is the study of the production, transmission, and reception of speech sounds. While phonology studies the sound systems of languages and how sounds function in relation to each other in a language.

EFL learners need to pay more attention to phonetics as part of their curriculum to understand the target language and improve their pronunciation skills. Algerian middle and high school textbooks focus on teaching pronunciation through phonemic symbols and train students to learn how words are pronounced using different vowel and consonant sounds. However, at the University level, phonetics programs provide learners with theoretical and practical knowledge on how individual words or those in connected speech are pronounced and described using the conventional system of transcription.

The current research attempts to answer the following question: Do second-year students of English at BBA University master phonemic symbols and phonetic/ phonemic transcriptions? Thus, the objective of the study is to measure the mastery level of phonemic symbols and both phonemic/ allophonic transcription of these students. The researcher adopted the census or "The Complete Enumeration Method" where all 226 second-year students, who were enrolled in the academic year 2020/2021, participated in this study.

2. Theoretical Background :

The study of phonetics helps EFL learners to recognize how sounds are physically produced. It deals with the physical properties of the elements of the sound system, in other words, how sounds are made in the vocal tract (Crystal, 2008, p. 363) [2]. On the way out the airflow can be more or less obstructed, producing **a consonant**, or is simply modified, giving **a vowel**. Consonant and vowel sounds are **phonemes** that serve to create meaning differences (Collins, Mees, and Carley, 2019, p. 64) [1], e.g. **/p/** is different than **/h/**. Phonetics instruction should begin with the individual speech sounds (Siertsema, 1959, p.05)[13], how they are articulated in the mouth, what organs are responsible for the production of a given consonant, the degree of obstruction for airflow, whether a given consonant is pronounced with the vibration of the vocal folds or not, how high and what part of the tongue is involved to produce an English vowel, are lips rounded on not,… An EFL student needs to know that the sound /**b**/ is articulated with the vibration of the vocal cords, both upper lip and lower lip come together when this sound is produced, and its articulation starts with complete closure in the mouth so that the air is blocked for a fraction of a second and then released with a small burst of sound, called a plosion. An example of English vowels can be the sound /**əʊ** / which is described as a diphthong (a combination of two vowels) that glides from mid-central vowel /**ə**/ to high-back vowel /**ʊ**/.

A learner's basic knowledge of the distinctive features of phonemes (consonants and vowels) will enable him/her to pronounce English words correctly. Things may be confusing to EFL learners because the abstract knowledge that they hold in their mind is about phonemes, and what they actually produce when they utter are the variants of phonemes. Each English phoneme, being a consonant or a vowel, has different realizations or variants which should share the same distinctive features of this phoneme and the substitution of one variant with another does not cause a change in meaning. Phoneticians named these variants **allophones.** An example of allophones is /p/ in the word

"tight" and "try". The difference here is that /p/ in "tight" is produced with aspiration [t^h], whereas /p/ in "try" is not [t]. The slight differences in allophones do not cause any semantic change as phonemes do.

As any language learner can notice, written English does not represent the spoken language. The orthography/spelling of words does not reflect how they are articulated. The only system that represents speech and is considered a reliable resource for correct pronunciation is the phonemic/phonetic transcription. In a phonemic transcription, every symbol stands for one sound and one best sound (Safari et al, 2013b, p.20)[12].

Transcription is defined by Crystal in her dictionary "A Dictionary of Phonetics and Linguistics" as "a method of writing down the speech sounds in a systematic and consistent way" (2008, p. 516) [2]. In other words, it is a written representation of speech sounds by using symbols that are usually referred to as phonemes or allophones (Roach, 1992, p. 115) [10].

Different units of sounds are most commonly transcribed in English using the International Phonetic Alphabet (IPA) which was founded as early as 1888 by English and French language teachers. It is the standard sound representation for oral language. The IPA Alphabet can be used as a way to: "show pronunciation in a dictionary, to record a language in linguistic fieldwork, to form the basis of a writing system for a language, or to annotate acoustic and other displays in the analysis of speech" (IPA Handbook, 1999, p. 3) [5]. Briefly, the IPA is a means to minimize difficulties in the articulation of words (Jahan, 2012, p. 36) [7].

There are different types of transcription depending on how detailed the transcription is. The first type is known as **phonemic/ phonological/ broad** transcription which is built upon the transcription of the distinctive sounds of a language (phonemes), and the second one is **phonetic/ allophonic/ narrow** transcription which embraces more details recording important but non-distinctive features of sounds (allophones) (Crystal,2008, p.490)[2]. The former type uses slant

brackets "//" to enclose phonemic symbols and whole words such as the phoneme /**k**/ and the word / **kɪŋ**/. The latter relies on angle brackets "[]" to enclose allophones or whole words transcribed phonetically, for example, the word "pact" is allophonically pronounced as [**pʰæk̚t**] (Tench, 2011, p. 04)[14]. The additional non-distinctive features of the narrow transcription are indicated by using symbols known as **diacritics (**e.g. **[n̪]** stands for the dental articulation of /n/ preceding a dental sound).

Every foreign language learner has the total right to learn and master the basic abilities of transcription (Gomes de Matos, 2002, p. 314)[4]. When transcription is used in school textbooks and dictionaries, phonemic transcription is often used due to its simplicity, and to reach a somewhat canonical pronunciation and transcription for the words (Lintunen, 2004, p. 30)[6]. Dictionaries, such as Oxford Advanced Learner's Dictionary and Longman Pronunciation Dictionary, adopted the IPA symbols and foreign learners can consult them to learn the correct pronunciation of words (Por & Fong, 2011, p. 170)[9]. The use of phonetic symbols helps learners to distract attention from ordinary letter associations (James 1986, p. 324)[5]. In addition, Rogerson-Revell (2011, p. 243) [11] claims that the mastery of phonetic transcription provides both teachers and learners with a shared reference point that can be referred to for error correction. In other words, it is a good teaching/learning method that guides learners to recognize their pronunciation errors and minimize fossilized mistakes. Teaching English using phonemic transcription is a modern independent way of learning pronunciation because it enables learners to learn the spoken language on their own from dictionaries or whatever sources that contain the transcription. Much time can be saved using transcription instead of the traditional teacher- centered approach that relied on "audio- recording" or "repeat-after- me" techniques.

3. Methodology

As indicated above, the present study examined a total of 226 students who were enrolled in the Foreign Languages Department at the University of Mouhamed El-Bachir El-Ibrahimi in the academic year

2020/2021. The data were collected from two separate tests at two different points at the end of the first two chapters of the first term. The main aim is to recognize to what extent second-year students of English master the phonetic basis and phonemic/phonetic transcription.

The first test was administrated at the end of the first chapter on "**The Production of English Sounds**" which defined phonetics and English sounds, identified organs of speech, and tackled how English vowels and consonants are described using the distinctive features. The test contains five exercises to determine the students' commands in English phonetics and phonology. The students were asked to specify the quality of vowels (short, long, diphthong) of 20 words, write the phonetic symbols representing different descriptions, answer some questions related to sounds description, indicate whether some statements on a phonetic basis are true or false, and finally write the orthography of a transcribed short text.

The second testing followed the completion of the second chapter on "**English Phonemes**" which discussed the difference between phonetics and phonology/ phonemes and allophones, introduced different levels of transcription (Broad and narrow transcriptions), and was closed with allophonic variants of English consonants and vowels. The test focused on transcription to train learners to get used to these types of practices in Phonetics courses. Students were given a list of individual words and were asked to transcribe them first phonemically and then phonetically and justify the use of each allophonic case.

4. Results and discussion:

Regarding the first diagnostic test, students did not really involve in the practice and there were few responses to the theory-focused test. Although the researcher, the instructor of the phonetics module for second-year students of English, already knew that students were introduced, during their first year, to the basis of phonetics mainly sounds description; participants were passively interacting and only a minority (20٪) were able to answer the questions of the test. In terms of identifying sounds from particular descriptions, students found

difficulties to understand the terms "Active articulator" and "Passive articulator" and this called for the researcher/teacher interference to explain them and give examples (Tongue is an active articulator, but the palate is a passive one). Learners were unable to identify sounds and could not remember the exact description of each English sound (consonants and vowels).

In short, the conclusion here is that students' basic knowledge of English phonetics and phonology was low and their failure to recognize sounds was mainly due to the inability to memorize the main features of the sounds. Results obtained from the second test clearly illustrate how successful the participants were after the completion of the two first chapters of the first term and the extensive in-class practices they took focusing mainly on broad and narrow transcription of individual words.

The following table illustrates the total number of participants who were able to transcribe the words and those who fail to do that:

Table1: Overall number of subjects tested

Number of subjects tested	*Number*	*Average%*
Percentage of below average learners	149	65,93
Percentage of Above average learners	77	34,07
Total number	226	100

Source: *The researcher's own work*

The second activity of the test was devoted to transcription where learners were given five words (**Finger**, **kneel**, **squash**, **booked**, and **sadly**) and asked to transcribe them phonemically and phonetically and explain the allophonic variants for each word. Table 01 indicates that the majority of second year undergraduates' learners (65.93٪) did not succeed to transcribe the words phonemically, and the instructor/researcher noticed that their faults were not just limited to vowels' transcription but were at the level of consonants symbols too.

The following sections discuss the analysis of each word and point out to the extent to which subjects tested were able to specify the allophonic cases with appropriate justification for each word.

I. The phonetic transcription of the word " Finger"

Table N° 02: Recognition of nasalized and velarized allophonic cases of "Finger"

The word "Finger"	Yes	٪	No	٪
Nasalized [~]	24	10.61	202	89.38
Variation of place [ŋ]	21	9.29	205	90.70

***Source**: The researcher's own results*

Table 02 shows that **10.61**٪ successfully identified the nasalized vowel **/ɪ/** and **9.29**٪ were able to recognize the variation of place of the sound **/n/.** The rule for nasalized vowels says that any English vowel will be nasalized when followed by a nasal consonant. For the second allophonic case, the alveolar nasal **/n/** is affected by the consonant that follows it, in other words, it takes the place of articulation of the consonant that comes directly after. For the word "Finger", the alveolar **/n/** is followed by a velar **/g/**; it becomes velar **[ŋ].**

II. The phonetic transcription of the word "Kneel"

Table N°03: Recognition of dark [ɬ] for the word "kneel"

The word " Kneel"	Yes	٪	No	٪
Dark [ɬ]	95	42.03	131	57.96

***Source**: The researcher's own results*

Statistically speaking, 42.03٪ of the subjects tested found no difficulty to recognize the allophonic variant of the word "kneel" which is dark **[ɬ]** together with the use of the right diacritic and the correct justification. As a teacher of phonetics module, the sound **/l/** is produced as a dark [ɬ] when followed by another consonant (e.g. the word "spelt") or in final position in a word as it is the case in the word "kneel".

III. The phonetic transcription of the word " Squash"

Table4: Recognition of unaspiration and devoicing for the word "squash"

The word "squash"	*Yes*	*٪*	*No*	*٪*
Unaspirated [k]	56	24.77	170	75.22
Devoiced [°]	19	8.40	207	91.59

Source: *The researcher's own results*

The word "squash" has two different allophonic variants and 24.77٪ of the participants identified the non-aspirated case of the sound /k/ and only 8.40٪ did recognize the devoicing of the sound /w/ which a very small percentage compared t the whole population of subjects tested.

As far as aspiration is concerned, learners need to know that voiceless plosives /p/, /t/, and /k/ are strongly aspirated when they are in initial stressed position and here the diacritic used to represent aspiration is **[ʰ].** These sounds are weakly aspirated when they are in final position as in "pot" or in unstressed syllable as in the second syllable of the word "paper". For non-aspirated plosives, the rule says that p/, /t/, and /k/ are unaspirated when they are preceded by the sound /s/ as it is the case of the word "squash" or followed by /l/, /r/, /w/, or / j/ in "play", "cry", "queen", and "cure" respectively.

The allophonic variant of approximants /w/, /r/, and /j/ is mainly about devoicing which means that the sound is a voiced one and, for some reasons, becomes devoiced. The approximants become devoiced when preceded by one of the voiceless plosives /p, /t/, or /k/ as in "pray", "tune", and "crowd" respectively.

IV. The phonetic transcription of the word " Booked"

Table N°05: recognition of unreleased plosive for the word "booked"

The word "Booked"	*Yes*	*٪*	*No*	*٪*
Unreleased plosive[̚]	76	33.62	150	66.37

Source: *The researcher's own results*

Approximately, one third of the participants (33.62 ٪) correctly identified the unreleased plosive /k/ with the right justification. Phonetically speaking, plosives /p/, /t/, /k/, /b/, /d/, or /g/ are unreleased when followed by another plosive or an affricate /ʧ/ or /ʤ/ as in the words "looked" and "that chair" respectively.

V. *The phonetic transcription of the word "Sadly"*

Table N°06: Recognition of lateralization for the word "sadly"

The word "Sadly"	*Yes*	٪	*No*	٪
Lateral release [ˡ]	62	27.43	164	72.56

Source: *The researcher's own results*

As it can be seen in table 06 above, 27.43 ٪ of learners pinpointed the allophonic variant of the word "sadly" .The lateral release of plosives is specific to the sounds /t/ and /d/ and it is applied when they precede the lateral sound /l/ ; in other word, they are affected by the sound /l/ and become lateralized.

As aforementioned, the main goal of this study is to provide an answer to the corresponding question: "Do the second year of English at B.B.A University master the English phonemic symbols and transcription in its broad and narrow sides". In an attempt to answer this question, data were collected from 226 participants by means of two different tests. On the one hand, the diagnostic test revealed that most participants had a low proficiency of the IPA symbols. Approximately, only one-third of the participants (1/3 out of 226 students) were able to develop an understanding of how English sounds are produced. The researcher, as the instructor of the Phonetics module, noticed that learners pronounced the words fluently and accurately, but faced transcription difficulties mainly with vowel symbols (short and long vowels). On the other hand, the second test examined the students' ability to recognize the allophonic variants for the five words under study. The results obtained clearly displayed most participants' failure to precise nasalization/ velarization for the word "*finger*", dark [ɬ] for the

word *"kneel", non-aspiration/devoicing for the word "squash", unreleased plosive for "booked" and lateral release for the word "sadly".*

Based on the results of both research tests, the researcher has figured out that most participants developed low mastery of the English phonemic symbols and were unable to acquire the transcription skills, including broad and narrow transcription.

Conclusion:

In this paper, the instructor/the researcher treated one of the topics that seem challenging to foreign language learners which is the mastery of phonemic symbols and broad/narrow transcription. Being a teacher of phonetics for second-year undergraduate students for seven years successively, the researcher noticed that the majority of EFL learners find difficulties to memorize phonemic symbols mainly vowels. Although students were introduced to phonemic symbols during their first academic year, within the module of phonetics, they still fail to transcribe words correctly. What is remarkable here is the fact that learners may articulate the words fluently with the right pronunciation, but they misuse the transcription.

As for allophonic variants of consonants and vowels, we remarked that learners could successfully determine dark [ɬ], unreleased plosives, the lateral release of plosives, and aspirated/non-aspirated plosives. The point here is that all the aforementioned allophonic cases, except for dark [ɬ], belong to the phonetic variants of plosive sounds /p/, /t/, /k/, /b/, /d/, and /g/.

Generally speaking, the results obtained from this research clearly demonstrate that one-third of the students tested have mastered the use of English phonemic symbols and have developed transcription skills, including broad and narrow transcription. The results are not satisfactory, as all allophonic identification cases above are below 50٪.

The present study signals a critical issue at the University level, where teachers of English ought to look for the main reasons behind

students' failure to acquire the English phonetic and phonology basic knowledge, together with phonemic and allophonic transcriptions.

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