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The specification of the difficulties in the perception and articulation of the English schwa phoneme by Turkish English teachers and students

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Abstract

“The term schwa, comes from Hebrew, where it means ‘emptiness’ and designates a Hebrew vowel of the same quality” (Skander and Burleigh, 2005:37). The schwa sound, whose symbol is [ə] in the IPA system, does not exist in modern standard Turkish. Due to this mother tongue interference case, its correct production does not ever correctly take place in the articulation of a great majority of Turkish people because it is not audibly heard. Moreover, when the schwa sound appears in the connected speech, the recognition and production of its phonetic value generally goes unheeded. For example, such words like *conclusion*, *confess*, *confuse*, *information*, *pronunciation*, *solution*, and hundreds of other words are articulated not with a schwa. In addition, due to vowel reduction in English, the shift of all vowels and diphthongs into schwa because of stress shift in vocabulary items makes its recognition and production much more difficult.

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Keywords: Schwa phoneme; fossilized error; vowel reduction; mother tongue interference; error hunt approach.

1. Introduction

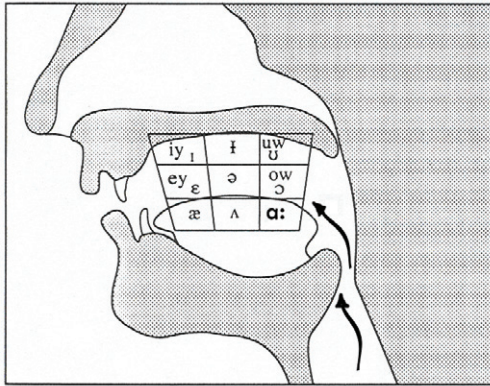
Many foreign language teachers and students, rather than learning detailed information on the difficulty of target language sounds, want to learn how to make their pronunciation. One of the problem-causing sounds of English language for Turks is the schwa ([ə]). Even though it has a phonemic status in English, Turks are having serious problems in perceiving it. There are many reasons for this. For example, firstly, Turkish does not have a schwa sound. Secondly, its articulation requires practices with special attention. Thirdly, it generally attracts the weak stress, which makes it hardly perceptible. Fourthly, the stress is mobile in English vocabulary structure; whenever the primary shifts back and forth, it creates weak syllables that carry the weak stress.

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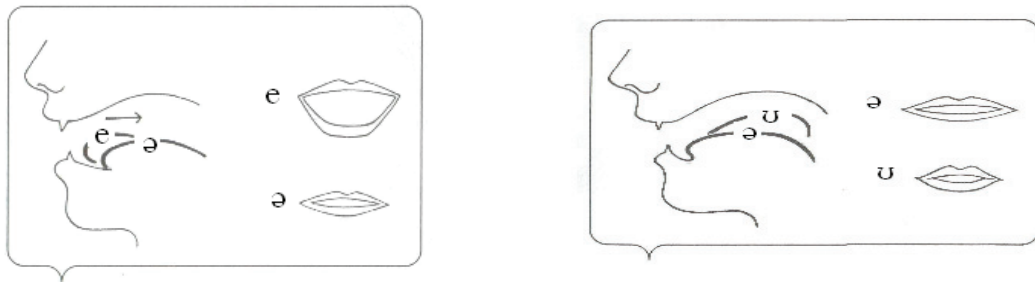
2. Articulatory Description of Schwa

Schwa is a mid-central short vowel in whose articulation the mouth is opened a bit, the teeth are closed together, the blade of the tongue is lowered while air stream coming from the lungs goes out through the teeth. The articulatory status of schwa is seen in Figure 1:



Adapted from (Avery and Ehrlich, 1992: 31)
 Figure 1: The Vowel Chart in form of Mouth Position in North American English

Figure (2): the contrastive articulation of /e/, /ə/, and /v/ phonemes in English.



(Baker, 1981:61, 69)

2.1. The Phonemic Status of the Schwa Phoneme

The schwa holds a phonemic status in English because it changes the meanings of words. The minimal pairs that are highly used in structural linguistics solidify the phonemic status of sound, as testified in the minimal pairs given below the change of primary stress into weak stress testify the sound status of /ʌ/, /ə/, /ε/ and /α/ as different phonemes.

Noun

súbject
 cónduct
 rébel
 présent
 súspect /

Verb

subyéct ⊆ /ʌ/ and /ə/ sounds are vowel phonemes.
 condúct ⊆ /ε/ and /α/ sounds are vowel phonemes.
 rebél ⊆ /ε/ and /ə/ sounds are vowel phonemes
 présént ⊆ /ə/ and /ε/ sounds are vowel phonemes
 suspéct /ʌ/ and /ə/ sounds are vowel phonemes.

Thus, schwa is a short or lax vowel phoneme. “Among the lax vowels schwa (↔), has a special status. It is also referred to as the ‘reduced vowel since so often alternates with various ‘full’ vowels” (Schane, 1973:14). The change of primary (or secondary) stress in the structure of the words with more than one syllable during the connected speech, especially in the stress-timed languages, one of which is the English language, the reduction of full vowels to schwa takes place.

In fact, vowel reduction is very common in the languages of the world. “More generally, however, schwa can behave like a fully fledged vowel in other languages, and can be stressed e.g. in Bulgarian” (Radford et al., 2000: 94). Schwa is a product of rapidly articulated speech; therefore, it can show up in two syllables, three syllables, and polysyllables of many languages. The schwa occurs solely in unstressed syllables. Since most unstressed syllables contain a schwa, this vowel is the most frequently occurring sound in English (Kenworthy, 1990:51; Jenkins, 2005; Celce-Murcia et al. 1996 :108). It is also called a neutral vowel or a reduced vowel. It occurs in German- for example the final vowel of the word *bitte* is a schwa sound. In French, “where all vowels are tense except for the schwa. An example of the French schwa is the first vowel of *petit*” (Schane, 1973:14).

2.2 Frequency of Schwa in English

There are 3 reduced vowels in English: ↔ , **I**, **v**/, all of which occur in unstressed syllables. **I**/ and **v**/ phonemes can also carry primary, secondary, and tertiary stresses in English words. The short **I**/ and **v**/ also often occur in unstressed syllables, but unlike schwa they show up in stressed syllables. As opposed to them, almost all unstressed syllables contain a schwa vowel, which is the most frequently occurring sound in English. The percentage of the reduced vowels is given as follows:

	<u>/ə/</u>	<u>/I/</u>	<u>/v/</u>
%	11	8	1
	(Skander and Burleigh, 2005:37)		

Thus, it is apparent almost 11 % of sounds uttered in an English conversation are schwas, standing out from other reduced vowels. Such a frequency count exhibits the important function that schwa fulfils in the structure of unstressed syllables of English, which is a stress-timed language. So, vowel reduction, by definition, is “Any phonological process in connected speech which makes a vowel shorter, less loud, lower in pitch or more central in quality, or which neutralizes some vowel contrasts in unstressed syllables (Skander and Burleigh, 2005: 163.). The speakers of many languages, including Turkish, find it difficult to pronounce unstressed syllables when they learn English because there is no schwa in their native tongues.

2.3. Auditory Status the Schwa Phoneme

Through the shift of primary stress / \cong / into weak stress / \surd / in the structure of vocabulary items some sounds loose their resonance in the oral and nasal cavities because together with the stress reduction, the pitch also undergoes reduction in the structure of words with a decrease in the vibrations of the vocal cords, and thus reduced vowels loose a great deal from their audibility. Moreover, “A peculiarity of English vowel reduction is the frequency of their *reduction* to a shorter or weaker form as a result of rate, stress and rhythm conditions. The properties of this weakened form of the segment will depend primarily on the time allowed it by the exigencies of speech rhythm, but in general the vowel tends to become shorter, simpler, weaker, and more central when compared with longer and more tense vowel resonances. The exact resonance will be consistent with a tongue posture which can be achieved in the shortened interval” Tiffany and Carrell (1987:138).

While the shift of the primary stress takes place when different prefixes and suffixes are added to vocabulary items, the creation of unstressed syllables that carry the weak stress distorts the overall rhythm and tempo patterns of the utterances, which cumulatively obscure the perception of schwa. This fact can be audibly heard in articulation of the following words:

ecoóonomy (n)
económic (adj.)

pólicy (n)
political (adj.)

	politicián (n.)
síparate (adj.)	idéntify
séparàte (v)	identifiáble
separátion	identificátion
nórmalcy	nóminate
normálicity	nominátion
normalizátion	nominée

Especially in connected speech, the emphasis of content words to ensure the clarity of the meaning of the utterances leads to cancel or knock out the accentuation of unimportant function words. Such a process in connected speech inevitably creates many schwa sounds which cannot be perceived by the Turks at all. The incorrect pronunciation of vowels that undergo change via stress shift results in an unnatural or even unintelligible pronunciation. The outcome is an underpronounced speech with unnatural sounding syllables.

3. Method: An Analysis to test the Perceptual Difficulty of Schwa Phoneme

In the Fall term of 2009, 81 Hacettepe University, Department of English Education first year students, aged 19-20, 15 males and 66, who had no phonetic training before were given 15 vocabulary items, as a pretest, (in each of which one or two occurrences of schwa sound took place) do their phonetic transcriptions. Since they had never been taught applied phonetics before, they all failed in making the transcriptions. After 3 months of intensive phonetic training by phonetic and phonemic transcription, contrastive analysis, minimal pair techniques on the consonants and vowels of the English language, with little emphasis on schwa, students studied on the English consonant and vowel chart. The dictionary of J. C. Wells called, Dictionary of American English. Longman Pearson (2000) with CD, was used in classroom practices. At the end of the term, to evaluate their *perceptual identification* of the schwa phoneme in different varieties of syllables a different set of 15 words which were not studied in class were given to them so as to be transcribed in a form of a posttest. Their errors were calculated by the techniques of error hunt approach.

The following calculations indicate the errors of the students:

<u>Words (n=81)</u>	<u>Pretest</u>	<u>Result</u>	<u>Posttest Result (Errata)</u>
schedule	0		27
diplomat	0		17
punctuation	0		63
consonant	0		38
phonetics	0		9
bathed	0		64
confused	0		33
teacher	0		12
cultural	0		15
brainstorming	0		0
grammar	0		42
cause and effect method	0		14
conversation	0		52
equivalent	0		28
evaluate	0		22

It is apparent that the schwa phoneme has a high degree of perceptual difficulty for Turkish students of the English language.

4. Conclusion and Recommendations

The phonetic case of the schwa sound is important because it holds a phonemic status in the inventory of English language. Since it holds a phonemic position, it harms the pronunciation and the capture of intended meaning of

words by the interlocutors in connected speech. The schwa is a syllable which functions only as a transition from one consonant to another in keeping with the characteristic cadence of English speech (Tiffany and Carrell (1987:138).

There are many reasons to show why Turkish students of English cannot properly perceive the pronunciation of the schwa phoneme. First of all, the schwa phoneme does not exist in the Turkish vowel inventory. Since Turkish is a syllable-timed language, it exhibits no case of vowel reduction and mobility of stress, which cumulatively obscure the perceptibility of the schwa phoneme for Turks. The rhythm and tempo of stress-timed nature of English is another important factor for the failure of Turks to perceive this vowel phoneme.

While the shift of the primary stress takes place when different prefixes and suffixes are added to vocabulary items, the creation of unstressed syllables that carry the weak stress distorts the overall rhythm and tempo patterns of the utterances, which cumulatively obscure the perception of schwa. In the meantime, the emphasis of content words to make the meaning of the utterances clear leads to cancel or knock out the accentuation of unimportant function words, and such a conduct in connected speech inevitably creates many schwa sounds which cannot be perceived by the Turks at all. The incorrect pronunciation of vowels that undergo change via stress shift results in an unnatural or even unintelligible pronunciation, which again curtails the perception of this phoneme in connected speech. The outcome is an underpronounced speech with unnatural sounding syllables which is highly difficult to be perceived even by the native speakers.

It must be noted that the mobility of stress and vowel reduction phenomena which reduce the resonance schwa by harming the audio-visual nature of the vowel schwa, must be closely taught to the Turkish students of English to sensitivize them so as to grasp the perception of the schwa phoneme. Faulty perception naturally feeds the erroneous articulation of the schwa phoneme whose misarticulation must be rehabilitated; otherwise, it will keep harming the communicative competence of the Turkish English teachers, teacher trainees, and students in perceiving the fluency of the connected speech. Finally, the result of this research indicates that the schwa phoneme, whose perception is very weak by Turks, is also a serious fossilized pronunciation error.

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