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/æ/ versus /ɑ/: Vowel fossilization in the pronunciation of Turkish English majors: Rehabilitation 1

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Abstract

In North American English (NAE) and British English, [æ] and [ɑ] are open vowel phonemes which are articulated by a speaker easily without a build-up of air pressure. Among all English vowels, the greatest problem for most Turkish majors of English is the discrimination of [æ] and [ɑ]. In English**,** [æ] is called the 'short a' or ash, and [ɑ] is termed as *'short o'* or *script-a*, which has a soft nature in its pronunciation. [ɑ] exists in Danish, Norwegian, and Swedish. In addition, it exists in French vowel system, as in *temps* (time) and *banc* (bench). It is commonly known that non-native speakers of a language, such as Turks, who cannot hear different sounds, are probably not pronouncing [æ] and [ɑ] sounds correctly. The aim of this study is to uncover the difficult phonetic details of English [æ] and [ɑ] sounds for Turkish English majors, and teachers-on-the-job and propose a sample lesson plan to them.

Keywords: vowel; phoneme; auditory discrimination; fossilization; phoneme awareness

1. Introduction

The problem is this: native speakers of English know that learners have difficulty with vowels and consonants (Götz, 2013, p. 54), and therefore it is necessary to gain a better appreciation of the types of pronunciation patterns in learning a foreign language, but gaining a much better control of vowels, consonants, and diphthongs in teacher education is a must because they construct the structures of syllables, words, phrases, clauses, and sentences. Among them, vowels are highly important since they attract the stress phonemes upon themselves and make the meaning of words. If the vowels together with consonants and diphthongs are not properly mastered by the Turkish English majors, they will suffer severe articulation and pronunciation problems in their speech that may impede their professional development. As Celce-Murcia (1996) argues, the issue of pronunciation helps the learners to achieve a "threshold level" of speaking ability where their sound production in the L2 is intelligible to most listeners. Theoretical background

Approximately, **/æ/** has got a frequency rate like 2.10 % while **/ɑ/** holds a rate like 1.45% (Cmloegcmluin, https://cmloegcmluin.wordpress.com/2012/11/10/relative-frequencies-of-english-

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phonemes/) in the NAE lexicon. While **/ɑ/** phoneme does not sound too much foreign to Turks, the **/æ/** phoneme does not exist in Turkish vowel inventory at all, and therefore the students feel a bit strange in hearing and using it in their speech. It is the vowels that carry the stress, intonation and accent natures of languages. In this respect, many researches on non-native speech and second language (L2) perception relationship suggest that a second language learner hears with an L1 accent when listening to or perceiving the sounds of the L2 (Strange, 1995, 2007; Escudero, 2005). It is well-established that the learners' native or first language creates phonetic impacts on how they hear and categorize L2 sounds (e.g., Flege, 1995; Flege, Bohn & Jang, 1997; Escudero; Best & Tyler, 2007). It is a common fact that having the similar vowels in L2 and L1 facilitates auditory vowel discrimination.

Kingston (2003) researched the ability of American English learners to categorize German non-low vowels and discovered that pairs of vowels contrasting minimally for the same feature in German often would not assimilate in the same way to English vowels, so some instances of the same contrast between German vowels were more easily discriminated than others. In addition, Imsri (2003**)** found that inexperienced learners perceived nonnative sounds according to their L1 inventory. Likewise, Pilus (2002), pointed to learners' better perception abilities than production abilities in his data. But Proctor (2004) in his investigation of the production and perception of Australian English vowels by Vietnamese and Japanese ESL speakers, but it fell short in account for other issues such as temporal transfer (the transfer of skills in the perception of duration). Strange, Akahane-Yamada, Kubo, Trent, Nishi and Jenkins (1998), and Strange, Akahane-Yamada, Kubo, Trent and Nishi (2001) pointed out that identification and discrimination of L2 vowels diverged significantly as a function of the settings in which they were produced and presented.

Demirezen (2017) did a research on a pretest-posttest design that was administrated to the participants to assess the categorical perception of English vowel phonemes **[a, æ, ɑ, ə, iː, ɪ, ɛ, oː, ɔ, e, uː, ʊ]** and discovered that certain English vowels, such as **[ɑ, ʊ, ə, ʌ, ɪ],** were problematic to hear by Turks. In addition, Hişmanoğlu (2006, 2007) made comparison of [o] and [ow] to show that [ow] was a problem-causer for Turkish English majors and other students.

Moreover, Casillas (2015) made a comparison of **/i/** and **/ɪ/** vowels in English and discovered that studying with sound contrasts was very beneficial for all types of learners. Öztürk & Gürbüz (2014) put forward the claim that fault pronunciation was a constant cause of speaking anxiety. In addition, Casillas and Simonet (2016, pp. 171-179) studied the production and perception of the English **/æ/–/ɑ/** contrast in switched-dominance speakers and discovered that there were problems both in their production and perception.

1.1. *A solid proof of /æ/ versus /a/ problem for Turks*

"In English, especially the pronunciation of vowels is problematic" (Zsiga, 2013, p. 17). To explore the claim of Tsiga (2013), given above, a research is made to unearth the background of **/æ/** versus **/ɑ/** problem for Turks**.** A pretest pertaining to categorical discrimination audition was administrated to the first year English majors at a private university in Ankara by Demirezen (2017) to the participants (N=39) in the classroom environment with no noise. The participants, who had a survey of English vowels four months age, were asked to identify and then match the IPA symbol of each vowel phoneme uttered by their pronunciation coach. After the assessment of the pretest, a three-hour intense training period took place; the students attended audition, perception, and pronunciation sessions given by the researcher.

The same 12 pretest items were administrated to the participants as the posttest after two weeks; as in the pretest, the test items were clearly and distinctly articulated by the researcher in forms of oral stimuli one by one by three times within three-second intermissions. The participants were asked to match the each oral vowel production with its correct IPA symbol written on paper in five alternative multiple choice test. Since the researcher was the pronunciation coach of the participants that speakers' voice matters in discriminating and identifying speech as well (Pisoni [1992] and thus psychoacoustic differences can be controlled.

The indication of the **/æ/** versus **/ɑ/** situation for Turkish English majors can be seen in the following calculations after the posttest: Data accumulated from the pretest and posttests were submitted to SPSS 20 statistical analysis, and it was found that right from the beginning it was **/ɑ/** phoneme, but not **/æ/**, was problematic for Turks, as seen in the following figures:

Pretest results:

Descriptives for the most problematic vowels (post-test results)

	N	Minimum	Maximum	Mean	Std. Deviation	Percentage
[æ]	39	1.00	1.00	97.44	160.13	97.44%
[ɑ]	39	.00	1.00	25.64	.442.36	25.64%

Posttest results:

Descriptives for the most problematic vowels (post-test results)

	N	Minimum	Maximum	Mean	Std. Deviation	Percentage
[æ]	39	.00	1.00	1.0000	00000	100.00%
[ɑ]	39	.00	1.00	48.72	.50637	48.72%

This study exhibited that the improvement of the recognition of [ɑ] was 25.64 % in the pretest, and could only be improved to 48.72 % after the posttest. The results of the pretest had already indicated that the auditory perception of the English sounds, such as **[ɑ, ʊ, ə, ʌ, ɪ]** were difficult for Turkish English majors (Demirezen (2017, p. 402).

General findings, based on the data analysis, yielded the following conclusion:

	N	Minimum	Maximum	Mean	Std. Deviation	Percentage
[ɪ]	39	.00	1.00	.6667	.47757	**66.67%**
[ɑ]	39	.00	1.00	.4872	.50637	**48.72%**
[ə]	39	.00	1.00	.4615	.50504	**46.15%**

(Demirezen, 2017)

After the application of the posttest, only **[ə, ɪ, ɑ]** vowels were discovered as problem-causing English phonemes for Turkish English majors. Since the passing grade was 60 out of 100 in the English Teacher Education Department, the participants needed a remedial treatment for the auditory recognition of **[ə, ɪ, ɑ]** phonemes whose rates were too low for professional English teachers.

1.2. *Description of English vowels*

To represent the basic sounds of spoken in all standard languages, linguists use a set of phonetic symbols called the *International Phonetic Alphabet (IPA)*. In English, every syllable has a vowel sound, which functions as the "heart" of syllables. English vowel sounds don't involve air blockage in

the oral cavity, being produced with relatively free passage of the airstream because the articulators do not touch the place and point of articulation in the oral cavity without significantly obstructing the flow of air from the lungs. Instead, they require a more continual sound flow. Even though the articulators are not involved in the oral cavity with any seeable and hearable constriction, but still we get different vowel sounds produced in the oral cavity in English. This due to the fact that changes in the position of the lips, tongue, and the jaw during the production process result in changes to the size and shape of the oral cavity, which produce different resonances which are altered by the articulators to form distinguishable vowel sounds. The oral cavity as a sound chamber is the resonator (vibrator), affecting the sound made by the vocal cords. The shape and size of this resonator determines the quality of the vowel.

Since vowels are very different from consonants, we have to use different features of articulation than those used to describe consonants. To describe vowels, the height of the tongue, position of the tongue, lip rounding, the tension of the vocal cords, and length of vowels are taken as parameters of vowel production (Demirezen, 1986, p. 66). A vowel is an unobstructed sound produced by unimpeded airflow that moves up from the larynx and out through the lips (Roach, 2009, p. 10; Ling, 2015, pp. 28-29).

There is a prominent role of the tongue in the production process; in addition, the jaw position and lips also play a major part by assisting the vowel production process. Varying degrees of openness correspond to different degrees of tongue height in English such as high, mid, and low.

The following chart indicates the NAE (General American, GA) vowel phonemes in terms of length and height distinction:

	FRONT	CENTER	BACK
HIGH	iː		uː
	ɪ		ʊ
MID	eː	ə	oʊ
	ɛ	ʌ	ɔ
LOW	æ		ɑ

Figure 1. The chart of NAE vowel phonemes

Definition of /æ/ versus /ɑ/:

/æ/ is a FRONT, LOW, SHORT (lax) vowel
/ɑ/ is a BACK, LOW, SHORT (lax) vowel

It must be noted that faulty perception and audition of **/æ/** and **/ɑ/** contrasts, which additionally carry over the prosody of the language, will definitely pave the way for faulty production of them. "Simply transferring the prosodic patterns of one's mother tongue of L1 to a foreign language or L2 (such as English) contributes to making you sound foreign, and may quite possibly lead to your being misunderstood by other speakers (Wells, 2006, pp. 2f.)"

The phonetic features of /æ/ versus /ɑ/

[æ] is very distinctive to the ear in typically American. As its phonetic symbol indicates, **[æ]** is a combination of [**a**] + [**e**] and is indicated by a digraph symbol like **[æ]** in the IPA inventory system. During the production of [æ] the tongue stays flat, forward and relaxed while the lips are spread wide almost like a smile, as seen the figure, and in the meantime the jaw drops in an open position.

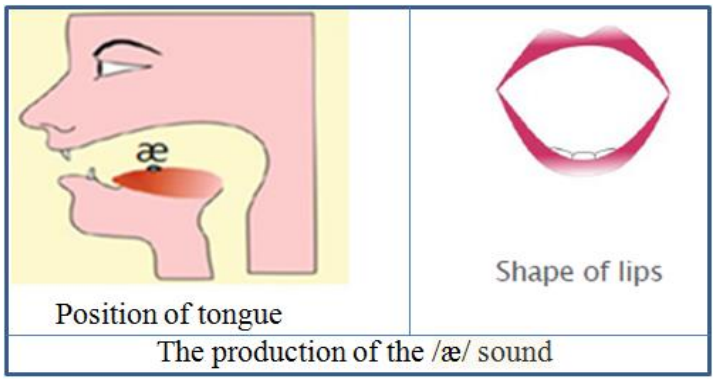

Figure 2. Tongue lip position in the production of [æ]
(Adapted fromSpokenEnglish-Sec1-lesson2pdf, p. 18)

The following sample words are in the phonetic transcription, which "can indicate minute details of the articulation of any particular sound by the use of differently shaped symbols" (Collins & Mees, 2013, p. 62).

/i:/ indicates a long vowel, as in beat, heat, and seat.

/j/ stands for a voiced palatal fricative

/ʔ/ stands for voiceless glottal stop
/:/ two little dots indicate the length of the vowel
/u:/ shows a high back rounded vowel
/ɾ/ denotes a flapped- r sound, or a fast [D sound] in NAE, as in *beauty*, *city*, *duty*, and *pretty*.

Sample words with [**ɑ**] :

The following vocabulary items are taken from *Longman Dictionary of American English* (2008) and *Longman Dictionary of Contemporary English* (2012):

ajar [əˈdʒ**ɑɹ**]	alarm [əˈl**ɑɹ**m]	almond [ˈ**ɑ**mənd]
anomaly [əˈn**ɑ**məli]	biopsy [ˈbaɪˌ**ɑ**psi]	carbon [ˈk**ɑɹ**bən]
drop [dɹ**ɑ**p]	czar [z**ɑɹ**]	cartoon [k**ɑɹ**ˈtuːn]
dot-com [d**ɑ**tˈk**ɑ**m]	father [ˈf**ɑ**ðəɹ]	follow [ˈf**ɑ**loʊ]
hotshot [ˈh**ɑ**t-ʃ**ɑ**t]	barbecue [ˈb**ɑɹ**bɪˌkjuː]	pardon [ˈp**ɑɹ**dn]
doctor [ˈd**ɑ**ktəɹ]	parsley [ˈp**ɑɹ**sli]	cardiology [ˌk**ɑɹ**diˈ**ɑ**lədʒi]
cartography [k**ɑɹ**ˈt**ɑ**gɹəfi]	partridge [ˈp**ɑɹ**tɹɪdʒ]	parliament [ˈp**ɑɹ**ləmənt]
barnyard [ˈb**ɑɹ**njɑɹd]	barbarian [b**ɑɹ**ˈbɛɹiːən]	dominant [ˈd**ɑ**mənənt]
partner [ˈp**ɑɹ**ʔnəɹ]	pathology [pəˈθ**ɑ**lədʒi]	participant [p**ɑɹ**ˈtɪsəpənt]
participle [ˈp**ɑɹ**ɹəˌsɪpəl]	parliament [ˈp**ɑɹ**ləmənt]	genealogy[ˌdʒiːniːˈ**ɑ**lədʒi]
geography [dʒiˈ**ɑ**gɹəfi]	vomit [ˈv**ɑ**mɪt]	iguana[ɪˈgw**ɑ**nə]

object [ˈɑbdʒɪkt] obvious [ˈɑbviːəs] occupy[ˈɑkjəˌpaɪ]
ostrich [ˈɑstɪtʃ] octopus [ˈɑktəpəs] onomatopoeia[ˌɑnəmɑrəˈpiːə]
comic [ˈkɑmɪk] compensate [ˈkɑmpənˌseɪt] commandant [ˈkɑməˌdɑnt]

Sample words with [æ]

back [bæk] maximum [ˈmæksəməm] medallion[məˈdæljən]
blank [blæŋk] cabbage [ˈkæbɪdʒ] parrot[ˈpæɹət]
fact [fækt] bad [bæd] mad [mæd]
gamble [ˈgæmbəl] gasoline [ˌgæsəˈliːn] waxy[ˈwæksi]
imagine [ɪˈmædʒɪn] land [lænd] exact [ɪgˈzækt]
examine [ɪgˈzæmɪn] happy [ˈhæpi] sad [sæd]
salad [ˈsæləd] relax [ɹɪˈlæks] manage [ˈmænɪdʒ]
napkin [ˈnæpkɪn] national [ˈnæʃənl] natural [ˈnætʃəɹəl]
navigate [ˈnævəˌgeɪt] nomad [ˈnoʊmæd] potassium [pəˈtæsiːəm]
practical [ˈpɹæktɪkəl] quack [kwæk] tarantula [təˈɹæntʃələ]
tobacco [təˈbækoʊ] zigzag [ˈzɪgzæg] zodiac [ˈzoʊdiːˌæk]

Words with [æ] and [ɑ] in combination :

mammogram [ˈmæməˌgɹæm] marathon [ˈmæɹəˌθɑn]
manuscript [ˈmænjəˌskɹɪpt] manufacture [ˌmænjəˈfæktʃəɹ]
mascara [mæˈskæɹə] matador [ˈmærəˌdɔɹ]
mathematical [mæθˈmæDɪkəl] fantastic [ˈfænˈtæstɪk]
vanguard [ˈvængɑɹd] Antarctica [ænt'ɑɹktɪkə]
caviar [ˈkæviːˌɑɹ] noncombatant [ˌnɑnkəmˈbæʔnt]
camouflage [ˈkæməˌflɑʒ] narcotic [nɑɹˈkɑrɪk]
nationality [ˌnæʃəˈnæləri] nonstandard [ˌnɑnˈstændəɹd]
nonstop [ˌnɑnˈstɑp] polygraph [ˈpɑliˌgɹæf]
polysyllabic [ˌpɑlisəˈlæbɪk] pragmatics [pɹægˈmærɪks]
pomegranate [ˈpɑməˌgɹænɪt] propaganda [ˌpɹɑpəˈgændə]
ransack [ˈɹænsæk] ragtag [ˈɹægtæg]
ramshackle [ˈɹæmˌʃækəl] rationale [ˌɹæʃəˈnæl]
tomcat [ˈtɑmkæt] cataract [ˈkærəˌrækt]

/ɑ/, which requires a lot of muscle movement, is termed as ***'short o'***. Turkish learners of English may feel strange at first in pronouncing it. According to Upton & Kretzschmar (2017), there is a high variability and ongoing change in its realization by non-natives, which is especially true for Turks because there are two vowels height as high and low, in modern standard Turkish.

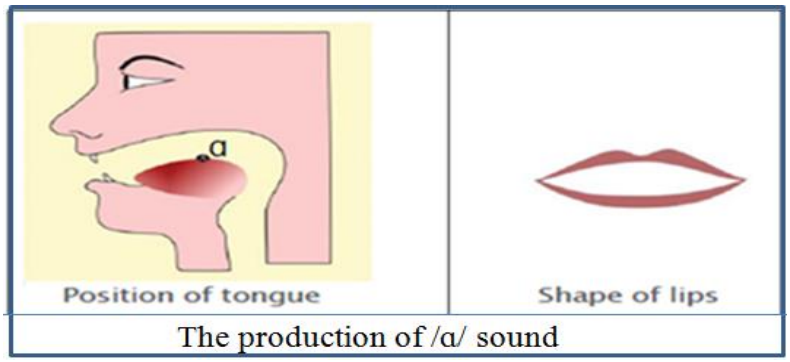

Figure 3. Tongue lip position in the production of /ɑ/
(Adapted fromSpokenEnglish-Sec1-lesson2pdf, p. 22)

1.3. *Dialectal Differences*

Received Pronunciation (RP) is the accent known as the standard language model in Britain. "Received" in this case means generally accepted. It is a model of pronunciation used in British courts as a language law, taught in British schools and also in language schools where British English is taught rather than American English. RP is considered "regionally neutral." This accent is not typical for any geographical region and can be heard all over the country. It is often associated with the level of education and social status.

Certain English words are pronounced with two different vowels depending on the dialect of the speaker, namely with **/ɑ:/** or **/æ/** in IPA notation. The original short open front vowel **/æ/** used in words such as *aunt, bath, can't, dance* or *laugh*, which prevailed in General American of North American English, but they were replaced in time by a longer vowel **/ɑ:/**, which is produced by lowering the center and the back of the tongue into an open position in Received Pronunciation . This change took place in the second half of the18th century; according to Darragh (2000), it happened in words in which the vowel stood before the consonants *f, sk, sp, st, ss, th*, and *n*, and that today it occurs in less than 250 words that are commonly used.

Once again, it must be noted that the **/æ/** phoneme of NAE is pronounced as **/ɑ**:/ in British English in the following words, whose diagram is indicated in figure 1, as NAE [**æ**] is converted into [**ɑ**:] in British English. These symbols are enclosed in slashes **[ ]** are used to indicate that the transcription is phonetic and does not represent the spelling system of a particular language. In the following transcriptions, the colon / : / represents longer duration in pronunciation, and the sign / ˈ/stands for the primary stress phoneme:

Monosyllabic words:			**Bisyllabic words:**		
NAE	Glossary	BrE	NAE	Glossary	BrE
[ˈæsk]	ask	[ˈɑ:sk]	[ˈæftəɹ]	after	[ˈɑ:ftə]
[ˈænt]	aunt	[ˈɑ:nt]	[ˈkæsəl]	castle	[ˈkɑ:səl]
[ˈbæθ]	bath	[ˈbɑ:θ]	[ˈænsəɹ]	answer	[ˈdɑnsə]
[ˈkæst]	cast	[ˈkɑst]	[kəˈmænd]	command	[kəˈmɑ:nd]
[kænt]	can't	[ˈkɑ:nt]	[dɪˈmænd]	demand	[dɪˈmɑ:nd]
[ˈtʃæns]	chance	[ˈtʃɑ:ns]	[ɪnˈhæns]	enhance	[ɪnˈhɑ:ns]
[ˈklæs]	class	[ˈklɑ:s]	[ˈɛgplænt]	eggplant	[ˈɛgplɑ:nt]
[ˈdæns]	dance	[ˈdɑ:ns]	[ˈmæstəɹ]	master	[ˈmɑ:stə]

[ˈdɹæft]	draft	[ˈdrɑ:ft]	[ˈnæsti]	nasty	[ˈnɑ:sti]
[ˈfæst]	fast	[ˈfɑ:st]	[ˈɹæðəɹ]	rather	[ˈrɑ:ðə]
[ˈgɹæs]	grass	[ˈgrɑ:s]	[ˈsæmpəl]	sample	[ˈsɑ:mpəl]
[ˈhæf]	half	[ˈhɑ:f]	[dʒəˈɹæf]	giraffe	[dʒəˈrɑ:f]
[ˈlæst]	last	[ˈlɑ:st]	[ˈlæftəɹ]	laughter	[ˈlɑ:ftə]
[ˈlæf]	laugh	[ˈlɑ:f]	[ˈplæstəɹ]	plaster	[ˈplɑ:stə]
[ˈmæsk]	mosque	[ˈmɑ:sk]	[ˈhæftaɪm]	halftime	[ˈhɑ:ftaɪm]
[ˈpæst]	past	[ˈpɑ:st]	[ədˈvæns]	advance	[ədˈvɑ:ns]
[ˈpæθ]	path	[ˈpɑ:θ]	[ˈglæswɛɹ]	glassware	[ˈglɑ:swɛə]
[ˈplænt]	plant	[plɑ:nt]	[ˈkæstɪŋ]	casting	[ˈkɑ:stɪŋ]
[ˈʃænt]	shan't	[ˈʃɑ:nt]	[ˈgɹæslænd]	grassland	[ˈgrɑ:sləɳd
[ˈstæf]	staff	[ˈstɑ:f]	[ˈgɹæslænd]	grassland	[ˈgrɑ:sləɳd
[ˈvæst]	vast	[ˈvɑ:st]	[ˈpæsbʊk]	passbook	[ˈpɑ:sbʊk]
[ˈklæs]	class	[ˈkl ɑ:s]	[ˈklæsɹu:m]	classroom	[ˈklɑ:srʊm]
[ˈpæs]	pass	[ˈpæs]	[ˈpæswɜɹd]	password	[ˈpæswɜ:d]

Trisyllabic words

NAE		**BrE**
[ɪgˈzæmpəl]	example	[ɪgˈzɑ:mpəl]
[ədˈvænrɪdʒ]	advantage	[ədˈvɑ:ntɪdʒ]
[plæˈstɪsəri]	plasticity	[plɑ:ˈstɪsəti]
bəˈnænə]	banana	[bəˈnɑ:nə]
[ˈkæstəˌweɪ]	castaway	[ˈkɑ:stəˌweɪ]
[ˈgɹæsˌhɑpəɹ]	grasshopper	[ˈgrɑ:sˌhɒpə]
[ˈpæsˌoʊvəɹ]	passover	[ˈpɑ:sˌəʊvə]
[ˈpæstʃəˌɹaɪz]	pasteurize	[ˈpɑ:stʃəˌraɪz]
[ˌpæsəɹˈbaɪ]	passerby	[ˌpɑ:səˈbaɪ]
[ˈfæsənəɹ]	fastener	[ˈfɑ:sənə]

Of course, there are more examples that keep their NAE identity as opposed to BrE, such as *bathroom* [ˈbæθɹu:m], *bathtub* [ˈbæθtʌb], *classmate* [ˈklæsmeɪt], *castoffs* [ˈkæstɔfs], *fasten* [ˈfæsən], *glassy* [ˈglæsi], and *passport* [ˈpæspɔɹt]. It must also be remembered that in Received Pronunciation (RP) we often find the sound [ɔ:] or [ɒ] where in NAE the sound [ɑ:] or [ɑ] occurs, as in *honor, hop, hotshot, job, hot, shop, shot, top, hot dog, hostage,* etc.

2. Conclusions

The present study reported on L2 production and perception of the **/æ/** and **/ɑ/** vowels of NAE as problem-causing vowels for Turkish English majors. As it was indicated by Tziga (2013), some

English vowels are difficult to learn. In this respect, **/ɑ/** happens to be the two of the most challenging English sounds for Turks, posing a difficulty of 48, 72 % while has a 100 % recognition success. There is no one-to-one relation between the system of writing and the system of pronunciation in English spelling; therefore, the non-native English majors must master the **/æ/** and **/ɑ/** phonemes, they need a lot of practice with many, many different minimal pairs and other words that house them with audio sound practice, so they can listen and repeat as the beats of muscle memory, such as playing the beats of a violin or a piano.

According to Demirezen (2017), for Turks, **/æ/** and **/ɑ/** distinction is a problem-causing situation due to incorrect oral and perceptual discrimination that lead the English majors to fossilized pronunciation, which, in turn, guides the language learners to make progresses to a certain point but then impedes them in making further progress. In addition, by producing negative impacts over the target language pronunciation system, pronunciation fossilization harms the fluency, accuracy, and intelligibility, which are three fatal professional dangers for non-native learners and especially majors of English.

If you're having trouble hearing the difference or pronouncing the difference, don't worry about it. This takes time and practice. Learning the difference between **/æ/** and **/ɑ/** is a gradual process, but if you work at it regularly and practice as much as you can, you're going to improve! In addition, according to Burley-Allen (1995), the average time spent on basic skills during the daily communication process is 30 % for speaking, 16 % for reading, 9 % for writing, and 40 % for listening. So, you can do critical listening and speaking by exposing yourself to authentic texts and further polish your skills. Likewise, Flowerdew (2005) further argues that students can only develop the rhetorical and argumentative skills related to particular disciplines, such as correct pronunciation, through sustained, incremental practice over a period of time.

One of the practical ways of quick improvement is the use of electronic dictionaries, as Demirezen (2017, 2015) and Erdinç (2016) indicated. Likewise, the author of the present article used two electronic dictionaries, namely, *Longman Dictionary of American English* (2008) and *Longman Dictionary of Contemporary English* (2012, which had many speaking words, phrases, clauses and sentences that were very beneficial help for designing transcriptions and examples to practice via speaking powerpoints. Such an application converted the basics of *Audio-articulation Pronunciation Corrrection Model* from being an Intuitive-Imitative Approach, which "depends on the learner's ability to listen and to imitate the rhythm and sounds of the target language without the intervention of any explicit information" (Celce-Mercia, et al. (1996:2) and Demirezen (2010:128-129) into a Multi-model Approach.

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Appendix A.

A.1. AN APPLICATION OF AUDIO-ARTICULATION PRONUNCIATION REHABILITATION MODEL: /æ/ versus /ɑ/

The whole of this presentation is prepared by the PC as a PowerPoint by using all of these examples downloaded from text-to-speech-labs and the electronic dictionaries via Audacity program 2.1.3 WAV Mono 44100Hz 32-bit float mute in audio tract. The PowerPoint can be used in class. This is a talking PowerPoint with the voice of the native speakers. Due to one of the main principles of the Audio-articulation pronunciation rehabilitation model, PC hands over the powerpoint on **/æ/** versus /ɑ/ to the students at the end of the session so that they can further study on their own.

The aim of this rehabilitation session is, then, to remove the pronunciation difficulties that hamper the production and perception of the **/æ/–/ɑ/** contrast in the speech of Turkish English majors. It must be noted that **/æ/–/ɑ/** distinction is a fossilized pronunciation error in many Turkish English majors and teachers-on-the-job because **/æ/** phoneme does not exist in Turkish.

1. MOTIVATION-WARM UP

Pronuncian coach (PC): Hello students, how are you all today?
Students (Sts): Thank you, sir. We are well, how about you?
PC: I am very well, thank you……
II. Review of the previous topic

PC: Dear students**,** which topic did we handled in our last session?
Sts: We studied on the /æ/ phoneme in English vowel chart
PC: Right, Ahmet, would you give me some words that have the/æ/phoneme?
Ahmet: Yes, sir, for example such words like **back, cat, hat, map,** and **tap** has the /æ/ phoneme.
PC: Well done, Ahmet. Ayla, can you give some other words with this phoneme?
Ayla: Yes, **access, bad, camp, daddy,** and **fat** also carry this phoneme.
PC: Very good, Ayla. It is appaerent that you have learned the /æ/ phoneme. Good for you.

III. PRESENT THE NEW TOPIC:

PC: Dear friends, **today we are going to study another vowel, which is /ɑ/**. Do not forget that, because it seems to be confusing, many Turkish students of English have serious discrimination, perception, and articulation hardship with it.

III (A). PREPARE VISUAL MINIMAL PAIRS:

Vowels are generally described by three parameters: openness, backness/frontness, and roundedness.

Now, please listen and repeat each pair, paying careful attention to the difference in vowel sounds.

Remember that for /æ/ your lips are spread and your tongue is more forward and relaxed, but for /ɑ/, the back of the tongue is raised up to the hard and soft palate, and the meantime the lips are neutrally open.

Minimal Pairs: For listening discrimination

Minimal pairs prove the fact that the distinction between vowels is important in the English language because they change the meaning of words. The following words of the minimal pairs carry frequent words of the NAE lexicon; there are more of them, which require another lesson plan, that are not as frequent as the ones used in this study.

Please, listen and repeat the following minimal pairs carefully:

mask /mæsk/

mosque /mask/

hat /hæt/

hot /hat/

cat /kæt/

cot /kat/

map /mæp/

mop /map/

packet /ˈpækɪt/

pocket /ˈpakɪt/

axe /æks/

ox /ɑks/

tap /tæp/

top /tɑp/

pat /pæt/

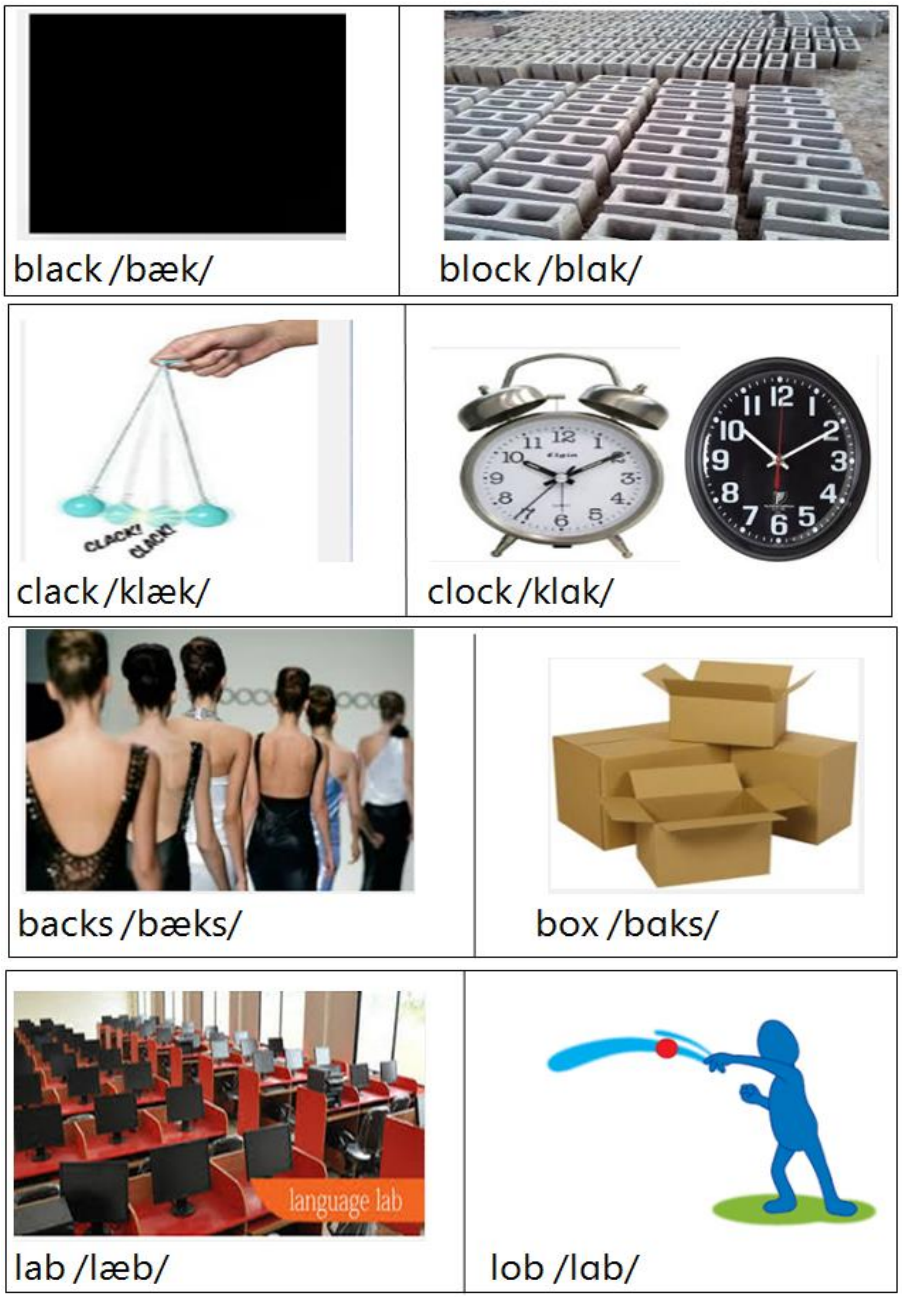
pot /pɑt/

cap /kæp/

cop /kɑp/

sack /sæk/

sock /sɑk/



III. (B): MINIMAL PAIRS IN ARTICULATION

The use of minimal pairs is the first step because you contrast two vowels with each other, while the other sounds remain the same. Now start to slide slowly from **/æ/** to **/ɑ/**, whose repetition and imitation activities are for teachers and students alike.

(PC plays the video on minimal pairs: https://www.youtube.com/watch?v=ukBr4UMdae4):

backs /bæks/	box /bɑks/	lab /læb/	lob /lɑb/
clack /klæk/	clock /klɑk/	black /bæk/	block /blɑk/
sack /sæk/	sock /sɑk/	cap /kæp/	cop /kɑp/
pat /pæt/	pot /pɑt/	tap /tæp/	top /tɑp/
axe /æks/	ox /ɑks/	packet /ˈpækɪt/	pocket /ˈpɑkɪt/
cat /kæt/	cot /kɑt/	map /mæp/	mop /mɑp/

hat /hæt/	hot /hɑt/	mask /mæsk/	mosque	/mɑsk/
lack /læk/	lock /lɑk/	racket /ˈɹækɪt/	rocket	/ˈɹɑkɪt/

IV: PREPARE CORPUS (/ɑ/ versus /æ/)

Since there is an easy and quick solution for learning these skills, with the corpus 80 100 words tons of practice words can be created. To improve, you need practice so that you to contact the muscles in your mouth that make the difference between **/æ/**versus **/ɑ/.**

ATTENTION: while / ˈ/ stands for the primary stress, /ˌ / stands for the secondary stress phoneme.

The PC reads out the words is the corpus. If necessary, these examples downloaded from text to speech labs via audacity program 2.1.3 WAV Mono 44100Hz 32-bit float mute audio tract can be played in class:

Instruction: Listen and repeat as your PC reads all of the **/ɑ/** words, and then all of the **/æ/** words. Then, read each pair of words aloud.

armchair [ˈɑɹmtʃɛɹ]	acrobat [ˈækɹəˌbæt]	Arnold [ˈɑɹnəld]
Barbara [ˈbɑɹbəɹə]	carpet [kɑɹˈkpɪt]	barnyard [ˈbɑɹnjɑɹd]
caravan [ˈkæɹəˌvæn/	camouflage [ˈkæməˌflɑʒ]	carpark [ˈkɑɹpɑɹk]
hard-hearted [ˌhɑɹdˈhɑɹtəd]	farmyard [ˈfɑɹmjɑɹd]	nonflammable [ˌnɑnˈflæməbəl]
laughingstock [ˈlæfɪŋˌstɑk]	non-alcoholic[ˌnɑnælkəˈhɔlɪk]	stopwatch [ˈstɑpwɑtʃ]
grassland [ˈgɹæslænd]	pajamas [pəˈdʒɑməz]	hatchback [ˈhætʃbæk]
palmtop [ˈpɑmtɑp]	bodyguard [ˈbɑdiˌgɑɹd]	handicap [ˈhændiˌkæp]
jackpot [ˈdʒækpɑtv	fantastic [fænˈtæstɪk]	marijuana [ˌmæɹəˈwɑnə]
handbag [ˈhændbæg]	jaguar [ˈdʒægwɑɹ]	backgammon [ˈbækˌgæmən]
godfather [ˈgɑdˌfɑðəɹ]	handicap [ˈhændiˌkæp]	satisfaction [ˌsædɪsˈfækʃən]
garage [gəˈɹɑʒ]	accomplish [əˈkɑmplɪʃ]	accommodate [əˈkɑməˌdeɪt]
jackass [ˈdʒækæs]	jackpot [ˈdʒækpɑt]	habitat [ˈhæbəˌtæt]
haphazard [ˌhæpˈhæzəɹd]	helicopter [ˈhɛləˌkɑptəɹ]	heptathlon [hɛpˈtæθlən]
hodgepodge [ˈhɑdʒpɑdʒ]	hypothesis [haɪˈpɑθəsɪs]	hippopotamus[ˌhɪpəˈpɑDəməs]
landmark [ˈlændmɑɹk]	laptop [ˈlæptɑp]	lasagna[ləˈzɑnjə]
ecological [ˌiːkəˈlɑdʒɪkəl]	economy [ɪˈkɑnəmi]	esophagus[ɪˈsɑfəgəs]
nonstop [ˌnɑnˈstɑp]	nonprofit [ˌnɑnˈpɹɑfɪt]	nonfat [ˌnɑnˈfæt]
Taiwan [ˈtaɪˈwɑːn]	Denmark [denmɑɹk]	Guatemala[ˌgwɑːtəˈmɑːlə]
Argentina [ˌɑːɹdʒˈtiːnə]	Panama [ˈpænəˌmɑː]	tsunami[tsʊˈnɑmi]
Azerbaijan [ˌæzəɹbaɪˈdʒɑːn] or [ˌɑːzəɹbaɪˈdʒɑːn]		Caracas [kəˈɹɑːkəs]

IV: PRACTICE WITH TONGUE TWISTERS

PC can practice these examples with the students through his own/her articulations, or can prepare them by means of recording and downloading these examples from text to speech labs via audacity program 2.1.3WAV Mono 44100Hz 32-bit float in mute audio tract.

VI(A): Practice: phrasal tongue twisters

The following tongue twisters are given to the student from the voice of native speakers:

(1)
A **hat**
A **hot hat**
A **black hot hat**
A **black hot hat** near that **block**

(2)
A map
A map and a mask
A map and a mask in a mosque
A map and mop next to a mask in a mosque

(3)
A cat
A cat in a cot
A cat in a hot cot
A cat in a hot cot near the hat

(4)
A pair of socks
A pair of socks for sacks
A pair of socks for sacks near a hat
A pair of socks for sacks near a hot hat

(5)
The lack
The lack of a lock
The lack of a lock for the cap
The lack of a lock for the cap of a cop

(6)
A block
A black block
A black block next to the clack
A black block next to clack of a clock

(7)
The lack
The lack of an ax
The lack of an ax to butcher an ox
The lack of an ax to butcher and to lock an ox

(8)
A racket
A racket with a rocket
A racket with a rocket in the pocket
A racket with a rocket in the pocket of a package

(9)
To lob
To lob the ball
To lob the ball high
To lob the ball high in a lab

(10)
The backs
The backs of the box
The backs of the box near a mop
The backs of the box near a mop and a map

IV(B): ACTIVITY IN ORAL EXERCISES: PRACTICE SENTENCES

Practice: Words in Sentences

Now say these sentences out loud.

1. The **fox park**ed on the **box**.
2. **Our fa**ther **got** a new **clock**.
3. An **arm** is a **part** of the **body**.
4. A **lar**ge **part** of the **park** was **dark**.
5. **Ar**thur and **Mark lob**bed a **part** of the **rock**.

6. My **mom** and **Char**les **stop**ped at the **barnyard**.
7. **Bar**bara and Carl **block**ed the **car**pet in the ga**ra**ge.
8. **Mar**tha and **Bar**bara **start**ed to climb to the **top** of the **rock**.
9. **John lob**bed the **box** and the **pot** towards the **roc**ket in the **hot cot.**
10. It's **hard** for **Mar**garet and **Brahms** to **start dan**cing in the **dark part** of the **park.**

IV(C): ACTIVITY IN ORAL EXERCISES: PRACTICE SENTENCES

Practice: Words in Sentences

Please, repeat the following sentences:

1. The **ac**cident **hap**pened in the **back** of a **hatchback.**
2. A **tra**ffic **ac**cident is a **han**di**cap**.
3. The **grassland** was **fantastic**.
4. **Can** we play **jackpot** and **backgam**mon by your **palmtop**?
5. **Do**nald **ca**mouflaged his **handbag** and **saddlebag** in his **ca**ra**van**.
6. **Jack had** a **ca**rav**an** and a ca**ta**mar**an ca**mouf**la**ged in the **grassland.**
7. **Danny** is a real fa**na**tic for pho**ne**tics.
8. How many **cans can** a **can**ner **can** if a **can**ner **can can can**s?
9. A **can**ner **can can as** many **can**s **as** a **can**ner **can** if a **can**ner **can can can**s.

IV(D): GIVING MINIMAL SENTENCES

Again, PC can practice these examples with the students through his own/her articulations, or can prepare them by means of recording and downloading these examples from text to speech labs via audacity program 2.1.3 WAV Mono 44100Hz 32-bit float mute audio tract.

1. The metal became red **HOT**/**HAT**.
2. That **MAP/MOP** is too old.
3. Bach's **CAP/CUP** is wet.
4. My **SACK/SOCK** is torn into pieces.
5. Can Arthur **LOB** that big stone in a **LAB**?
6. The **AXE/OX** of Robin Hood is very huge.
7. Barbara saw the **BACKS/BOX** of the clowns.
8. A **MAP**/**MOP** is a useful tool to clean the floor.
9. Where did you hide the **CAT/COT** in your room?
10. Margaret gave the little boy a **PAT/POT** on the head.
11. I want to buy a **RACKET/ROCKET** to play tennis.
12. The project was canceled for **LACK/LOCK** of money.
13. The baby was playing with stone **BLOCKS/BLACKS.**
14. A **BLACK/BLOCK** material may be planted in that field.
15. Martha went to the kitchen and turned on the **TAPS/TOPS.**
16. Jack's real problem is that he **LACKS/LOCKS** confidence.
17. They found an old **MASK/MOSQUE** in our neighborhood.

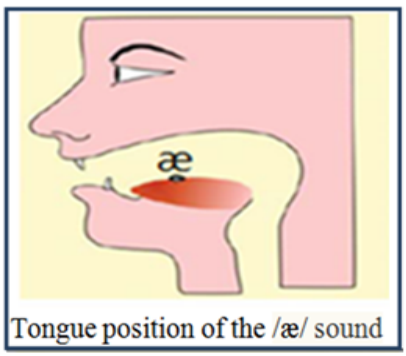
18. Financial backing for the project is still **LACKING/LOCKING.**
19. The **ROCKET/RACKET** was launched from a space research base.
20. He could hear the **CLACK/CLOCK** of high heels walking past in the corridor.

V: GIVING THE RULE

Attention! This is the rule time!

As it is indicated in the figure 1, the mouth positions of **/æ**/ and **/ɑ/** are different. English has eleven different vowels, and **/æ/,** being one of them, is an open unrounded back vowel, which requires a lot of jaw drop. When pronouncing *'short a'* **/æ/** and *'short o'* **/ɑ/,** remember that they are both low vowels, which means that the tongue is held low during their pronunciation.

Rule 1:



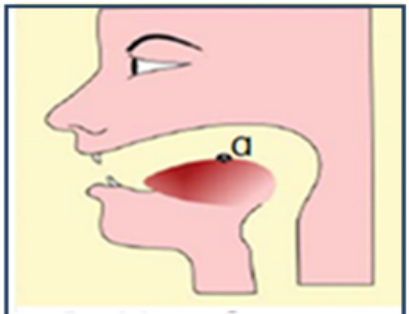
Tongue position of the /æ/ sound

During the production process, the mouth is opened up slightly. When articulating the vowel phoneme /æ/, the front of the tongue is slightly raised towards the hard palate and the lips are neutrally open, as is shown in the attached figure. In other words, the 'short a' /æ/ is a front low vowel; this boils down to mean that /æ/ is articulated, or pronounced, by using the front of the tongue. So while the tongue is being held low and sat inside the bottom of the teeth, it essentially presses into the bottom of the front teeth slightly, so that the back of the mouth can just allow the airstream into the throat to stay open. If this is not done, a 'short o' /ɑ/, not an /æ/ phoneme, is produced instead.

(Adapted from / Section1/http://www.dei.ac.in/dei/books/files/pdf/spokenEnglish/ Chapters Spoken English-Sec1-Lesson2.pdf).

Figure 4. Tongue positions of /æ/ phoneme

(At this junction, PC plays the video: https://www.youtube.com/watch?v=-i7-DDAW-ok)



Tongue position of the /ɑ/ sound

In producing the sound /ɑ/ sound, the center of the tongue is raised toward the middle of the hard palate and soft palate, while jaws are open, and in the mean time the lips are neutrally open as is shown in the attached figure. It must be noted that the lips are quite open and rather rounded, but not pursed. That's why the 'short o' **/ɑ/** is a low-back vowel. When it is articulated correctly, the back of my tongue makes a slight vibration. There is a sense of an unrestricted relaxed throat that allows the airstream to pass through easily.

(Adapted from http://www.dei.ac.in/dei/books/files/pdf/spokenEnglish/ Chapters/ Section1/SpokenEnglish-Sec1-Lesson2.pdf).

Figure 5. Tongue positions of **/ɑ/** phoneme:

(At this junction, PC plays the video: https://www.youtube.com/watch?v=1F47WdIjn5U)

Rule 2: American English is rhotic, and rhotic speakers pronounce written < r >, which is a voiced flap in its articulatory nature, in all positions. Contrarily, standard British English is non-rhotic, or r-less accent, and written "r" is pronounced only in some positions; for example, < r > is not pronounced after vowels. Non-rhotic accents use British Received Pronunciation. In BrE, as seen in figure 5, **/ɑ/** phoneme is lengthened into [**ɑ:**] before the letter < r > which is articulated as a voiced tap (/ɾ/), as

heard in such words like **car** [kɑɹ], **card** [kɑɹd], **bar** [bɑɹ], **far** [fɑɹ], and **tar** [tɑɹ]. **/ɑ/** is also indicated by an IPA symbol like /a/ in some dictionaries, as transcribed in the same words like **car** [kaɹ], **card** [kaɹd], **bar** [baɹ], **far** [faɹ], and **tar** [taɹ]. In British English, **/ɾ/,** is not articulated after vowels, and its disappearance by making the preceding vowel a long vowel, as heard in the following words:

NAE	***Glossary***	**BrE**
[bɑɹ]	bar	[bɑː]
[fɑɹ]	far	[fɑː]
[tɑɹ]	tar	[tɑː]
[kɑɹd]	card	[kɑd]
[ˈfɑɪməɹ]	farmer	[ˈfɑːməː]
[ˈkɑɪpɑɪk]	carpark	[ˈkɑːpɑːk]
[hɑɹdˌkʌvəɹ]	hardcover	[ˈhɑːdˌkʌvəː]
[ɹɪˈpɔɪɾəɹ]	reporter	[ɾɪˈpɔːtəː]
[tɹænsˈfɔɪməɹ]	transformer	[tɾænsˈfɔːməː]
[ˈmɜɹdəɹəɹ]	murderer	[ˈmɜːdəɾə]
[ˈtɹɪgəɹəɹ]	triggerer	[ˈtɾɪgəɾə]
[ˈɹiːsɜɹtʃəɹ]	researcher	[ˈɾiːsɜtʃə]

Rule 3: **Caution**: It must be noted that **/ɑ/** phoneme tends to be longer when it gets the primary stress in NAE Hancock, 2003, p.36; Ladefoged and Disner, 2009, p. 30; Davenport & Hannahs, 2010, p. 47; Baker, 2006, p. 23; Brown, 2014, pp. 23-29)

proper [ˈpɹ**ɑː**pəɹ/	psalm [s**ɑː**m]	qualify [ˈkw**ɑː**ləˌfaɪ]
psychology [saɪˈk**ɑː**lədʒi]	radiology [ˌɹeɪdiˈɑːlədʒi]	Ramadan [ˈɹ**ɑː**məˌd**ɑ**n]
taxonomy [tækˈs**ɑː**nəmi]	theology [θiːˈ**ɑː**lədʒi]	tomahawk [ˈt**ɑ**məˌhɔk]
tomorrow [təˈm**ɑː**ɹoʊ]	topography [təˈp**ɑː**grəfi]	toxicology [ˌtɑksɪˈk**ɑː**lədʒi]

(Longman Dictionary of Contemporary English (2012)

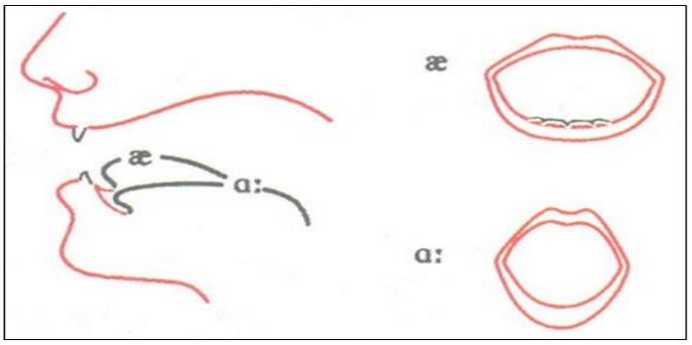


Figure 6. The lengthening of NAE /æ/ is converted into /ɑː/ in British English
(Adapted from Baker (2006, p. 23).

(Right at this junction, PC plays this video: (https://perfectlyspoken.com/pronunciation-a%CB%90-sound/) and makes comments on it).

VI: DOING HARDER EXERCISES:

VI. (A). Oral exercise:

SENTENCES WITH CONTEXTUAL CLUES

Once again, PC can practice these examples with the students through his own/her articulations, or can prepare them by means of recording and downloading these examples from text to speech labs via audacity program 2.1.3 WAV Mono 44100Hz 32-bit float in mute audio tract.

1. It is very **HOT** in this **HAT**.
2. He killed an **OX** by an **AXE**.
3. My **CAT** hid herself in a **COT**.
4. Is there a **COP** under that **CAP**?
5. Did you say the word **MAP** or **MOP?**
6. You can keep the **SOCKS** in those **SACKS**.
7. She always puts the rice in a **SACK/SOCK**.
8. The butcher killed the **OX** by a large **AXE**.
9. They found a **MASK** in that ancient **MOSQUE**.
10. She can keep a **PACKET** in her large **POCKET**.
11. Can you put this **PACKET** into your **POCKET**?
12. What you **LACK** is a strong **LOCK** for your door.
13. I heard the **CLACK** of typewriters near a **CLOCK**.
14. She put the papers on the **TOP/TAP** of the piano.
15. Mr. Brown gave the child a **PAT** near a **POT** of soup.
16. You never see a **BOX** on the **BACKS** of these workers.
17. The meaning of the word **BLACK** does not mean **BLOCK**.
18. The thief tore open the **POCKET** near the serial **PACKET**.
19. They began firing **ROCKETS** by using **RACKETS** at the ship.
20. She adapted herself to the tick-tacks and **CLACKS** of the **CLOCKS**.

VI (B). PROBLEM-SOUND CONCENTRATED EXERCISES

PC rehearses these examples with the students through his own/her articulations, or can prepare them by means of recording and downloading these examples from text to speech labs via audacity program 2.1.3 WAV Mono 44100Hz 32-bit float mute audio tract. Repetitions will be one by one by the students, or in choir.

1. It is very difficult to scare an **OX** with an **AXE** by putting on a **HOT HAT.**
2. The heart of **COP** with a large **CAP** will make a **TAP** on **TOP** of his head.
3. You need a **SACK** to put that **SOCK** so that it can seem like a **POCKET** in a **PACKET.**
4. Can an **OX** use an **AXE** to make a **PAT** on a soup **POT** and put its **SOCKS** in **SACKS**?
5. Is the **MASK** in that **MOSQUE** made of a **BLACK BLOCK** in the shape of a **SOCK** beside a **SACK?**
6. A can make a loud **TAP** on **TOP** of a mountain which can sound like **CLACKS** of **CLOCKS**.
7. Can you write your name on the **BACKS** of that **BOX** without making a **TAP** on the **TOP** of the mountain which looks like **HOT HAT**?
8. By putting on a **HOT HAT** in this heat, you will feel the tick-tacks and **CLACKS** of the **CLOCKS** in your heart.
9. The **CAP** of that **COP** looks like a **CAT** in a **COT** that is concealed in a **POCKET** of a **PACKET** in shape of a **MOB** on a **MAP.**

10. A **CAT** sleeping in a **COT** cannot put on its **SOCKS** placed in the **SACKS** beside the **CAP** of a **COP** who feels as if his head is in a **HOT HAT** that makes a **TAP** on **TOP** of his heart.

VI (C). A PARAGRAPH

Instruction 1: Please, listen to the following passage and mark the words that harbor **/æ/** and **/ɑ/** phonemes:
(PC, if possible, plays the taped form of this paragraph via Text to speech labs and uses the necessary types of practice techniques in class):

There was a **COP** with a funny large **CAP**, and he used to butcher an **OX** by an **AXE** for the Animal Sacrifice Holidays. The way he butchered the **OX** by an **AXE** sounded like **CLACKS** of **CLOCKS**. After the sacrificing process was over, he would put the meat of the **OX** in some **SACKS** of **SOCKS** that looked like a **POCKET** in a **PACKET.** Then, **CATS** coming from different **COTS,** would eat the remnants of the meat by making a **TAP** on **TOP** of the ground. Finally, this **COP** with a funny large **CAP** looking like a **HOT HAT** would finish his sacrificing procedures by placing the meat of the **OX** on the **BACKS** of a huge **BOX** and deliver it to the poor.

Instruction 2: Please, memorize the passage for the next class hour. You will be called on to recite it.

VII: MAKE A SUMMARY

The PC gives a short summary on the production and perception of the **/æ/** versus **/ɑ/**, and asks the students if they have any questions. If they have any questions, s/he plays the following from the youtube:

1.https://www.youtube.com/watch?v=R5CY1UniS68, for **/ɑ/**

2. https://www.youtube.com/watch?v=mynucZiy-Ug, for **/æ/**

(**Finally, PC hand over the powerpoint on /æ/ versus /ɑ/ to the students**).

VII: GIVE ASSIGNMENTS

Dear students,
Now, let's take a look at your assignment topics together. Do not forget that I will collect them by doing some corrections and remarks on them, and hand them over to you in our next meeting.

1. Each student will prepare 2 tongue twisters, as shown in IV(A)
2. Each student will prepare 5 sentences, as in IV(C).
3. Each student will prepare 5 sentences, as in IV(D).
4. Each student will prepare 5 sentences, as in VI(A).
5. Each student will prepare 5 sentences, as in IV(C).
6. Write a paragraph of 80 words chosen from the minimal pairs and the corpus, as in VI(C) and convert the paragraph into a speaking text by using Audacity program and text to speech labs on the internet.
7. Write down a short/long dialogue and convert it into a speaking text by using Audacity program and text to speech labs on the internet.

(**After the distribution of assignments to each student, PC dismisses the class**)

/æ/ karşı /ɑ/: Türk İngilizce Öğretmenliği öğrencilerinin sesletiminde ünlü kemikleşmesi: İyileştirme 1

Öz

Amerikan İngilizcesi ve İngiliz İngilizcesinde, [æ] ve [ɑ], konuşmacılar tarafından hava basıncına uğramadan kolayca telaffuz edilen açık ses yapılı ünlülerdir. Tüm İngiliz dili ünlüleri arasında, Türk İngiliz Dili Öğretmenliği öğrencileri için en çok problem yaratan [æ] ve [ɑ] ünlülerinin ayrımıdır. İngilizce'de, [æ] 'kısa a' ya da 'ash' olarak adlandırılır ve sesletiminde yumuşak bir doğası olan [ɑ], 'kısa o' ya da 'script-a' olarak terimleştirilmiştir. Ayrıca, [ɑ] Danca, Norveççe ve İsveççe'de bulunur. Buna ek olarak, Fransızca ünlü sisteminde, *temps* (zaman) ve *banc* (benç) gibi bu ses de bulunmaktadır. Yaygın olarak bilindiği gibi, bir dilin anadili olmayan konuşurları, örneğin Türkler, farklı sesleri duyamazlar ve büyük bir olasılıkla [æ] ve [ɑ] seslerini doğru sesletemezler, çünkü bu sesler kendi anadillerinde yoktur. Bu çalışmanın amacı, Türk İngilizce öğretmenliği öğrencileri ve çalışmakta olan öğretmenler için, İngilizce'deki zorluk çıkaran [æ] ve [ɑ] ünlülerinin sesbilgisel unsurlarını ortaya çıkarmak, çoklu modellere dayanan alıştırmalarla yanlış sesletimlerini düzeltmek için örnek bir ders planı sunmaktır.

Anahtar sözcükler: ünlüler; sesbirim; işitsel ayırım; kemikleşmiş sesletim; sesbirim farkındalığı

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