

## Phonology and Applied Linguistics Meet in Teaching Listening

Rajaa Aquil

Georgia Institute of Technology

School of Modern Languages

USA

### Abstract:

This paper discusses connected speech as a listening problem in foreign language pedagogy. The paper presents linguistic phonological changes that are characteristic of connected speech, which make understanding more difficult, especially for learners of foreign languages. A comparison is drawn between the phonological changes in connected speech of Colloquial Egyptian Arabic (CEA) and American English language (AE), specifically the changes that occur within words and at word boundaries. This is in order to demonstrate the similarities and differences in the phonological processes employed by each language. The paper concludes with an approach to teaching listening that capitalizes on the conducted contrastive analysis. It is an approach that dwells upon processes of listening. The proposed approach, The Listening Skill and Comprehension Approach, focuses on both comprehension and skill. It trains language learners not only to construct meaning, but also to crack the code. The approach includes pedagogical listening tasks that offer solutions to language learners' problems in listening, some of which could be related to language transfer.

*Keywords:* Phonological changes, connected speech, listening pedagogy, listening tasks

## 1.0 Introduction

A given speech signal fails to follow the principle of linearity as it is established by the classic study of Chomsky and Miller (1963). The principle of linearity assumes that, for each phoneme, there must be a particular stretch of sound in the signal. In speech, properties of an acoustic signal of a phoneme overlap, co-occur and intermix so greatly with the acoustic properties of adjacent segments in the sound stream that definable portions of sound do not correspond to segments at the phoneme level

(Delattre, Liberman, & Cooper, 1955; Liberman, Cooper, & Studdert-Kennedy, 1967; Liberman, Delattre, Cooper, & Gerstman, 1954; Studdert-Kennedy, 1976).

In short, there is a lack of correspondence between an acoustic signal (representing a sound) and a perceived phoneme, because phoneme boundaries disappear, that is, phonemes cannot be segmented into discrete units. For example, in a sequence of a consonant and a vowel like /di/ or /du/, the /d/ could not be isolated in the sequence and still be heard as /d/. In order to hear the /d/ as in /di/ or in /du/ the whole combination of the consonant and the following vowel must be present (Liberman et al., 1967; Liberman et al., 1954; Liberman, Harris, Hoffman, & Griffith, 1957; Mattingly, Liberman, Syrdal, & Halwes, 1971; Miller & Liberman, 1979).

There is no better example of lack of linearity of a speech signal than connected or running speech. The language of connected speech undergoes a great deal of phonological modification and change. These changes take place within words and at word boundaries, i.e., between words. Some of these changes are assimilation, contraction, liaison and elision. They are referred to in the literature as “sandhi-variation,” and are defined as “the phonological modification of grammatical forms which have been juxtaposed” (Crystal, 1980: 311). Because of these modifications Gillian Brown (1990) refers to the incoming speech sounds, specifically those pertaining to connected spoken speech, as “acoustic blur,” out of which the listener has to attempt to reconstruct what words the speaker actually intends and, hence; the meaning.

## 2.0 Connected speech and teaching listening

Researchers in language pedagogy contend that connected speech, or “real life” language, needs to be the focus of instruction. Listening texts and recordings ought to contain naturally occurring stretches of connected spoken language. Naturally occurring connected speech is characteristic of reduced forms, whose pronunciations differ considerably from the decontextualized units of language, as in isolated citations forms (Brown, 1990, 1995a, 1995b; Brown & Yule, 1983). Teaching based on conversational and discourse analysis usually emphasizes the natural way native speakers of a language speak.

Researchers agree that foreign language learners are faced with a daunting task when they listen to native speakers using naturally occurring connected speech (Brown & Yule, 1983; Flowerdew & Miller, 2005; Rost, 1990, 2002; Ur, 1984).

The difficulty is attributable to many factors. As mentioned, because phonological changes alter speech greatly, learners may fail to recognize words they have already learned because they are not familiar with the way the words sound in connected speech. Connected speech takes place in real time, hence; a learner does not have the time to search his or her memory for the meaning of words when processing connected speech. Besides, recognition of a word might be linked to learners’ particular knowledge of what the word looks like on paper, or what it sounds like in

citation forms (in isolation). In writing, there are spaces between words, however, in speech words run into one another with no spaces between them, which makes deciding where one word ends and another begins more difficult (Brown & Yule, 1983; Field, 1997a, 1997b, 1998a, 1998b, 2000a, 2000b, 2003; Koster, 1987; Ur, 1984).

In my recent study Aquil (2012b) I discussed the problem of connected speech. In a study investigating the source of the problem, I found that learners were not able to recognize words that have undergone the phonological modification characteristic of connected speech. This was despite the fact that the learners knew the words in their citation forms.

### *2.1 Sandhi-variation connected speech*

Sandhi-variations are the phonological modifications -- such as assimilation, contraction, liaison and elision -- that take place in connected speech. Since sandhi-variations is one factor that renders connected speech more difficult to understand for learners of foreign languages, researchers investigated its impact on language learning.

For example, Henrichsen (1984) investigated the effect of “sandhi-variation” on listening comprehension. He looked into the interaction between absence and presence of “sandhi-variation” and learners’ level of proficiency. The participants of his study were 65 college students of three distinct proficiency levels; a first group (low level group) whose mean score was 69.63 on the Michigan Test of English Language Proficiency (MTELP), a second group (high group) whose mean score was 78.00 on the MTELP, and a third group (native speakers) taking courses in linguistics and TESL at Brigham Young University, Hawaii Campus. He adapted the instrument (Sandhi-Variation Exercise, SVE) from Bowen’s (Bowen, 1975, 1976, 1977a, 1977b) Integrative Grammar Test (IGT), which consisted of 50 taped sentences, all of which had some form of sandhi-variation, for example, the second word (usually a grammatical morpheme) was contracted, as shown in example (1).

- 1) a. who’d he been to see
- b. who'd he wanna see
- c. who’d he like to see

To examine the perceptual saliency of the contracted morpheme, Henrichsen prepared two forms of SVE, each containing 15 sentences, some of which contained sandhi-variation and others that did not (e.g. full non-contracted form vs. contracted form). Henrichsen asked his three groups to listen to the sentences and determine the second word and write it in its full form. All subjects took the two forms, and scores were calculated on the basis of the accuracy of the word. Results showed that native speakers’ performance was not affected by presence or absence of sandhi-variation, whereas foreign language learners’ performance was. Results also showed that foreign language learners’ proficiency level interacted with the presence and absence of sandhi-variation; high-level learners’ mean scores on sentences with sandhi-variation present were higher than those of low-level learners.

Likewise, the interaction between strong or weak syllables and stress was also investigated. Researchers attribute some English language learners' problems to perceiving weak syllables, which often contain a weak vowel, which in turn interferes with the recognition of these syllables (Bradford, 2000; Eastman, 1993).

For example, Eastman (1993) examined learners' ability to recognize stressed syllables. Eastman argued that second language learners whose language is syllable-timed lack a strategy for dealing with unstressed syllables. He asked his non-native speakers to count the number of schwas in a short recorded selection. The learners recognized only 30% of the schwas, and on the second trial the percentage rose to only 50%. Eastman concluded that, in this study, the learners' attention was primarily given to word recognition and this hindered their ability to identify schwas, which often appeared in weak syllables or in function rather than content words.

## *2.2 Rate of speech*

Researchers also investigated the rate of speech in connected speech. Rate of speech is the alternation that takes place in the articulation of speech in terms of how slow or fast it is delivered. These alternations modify and produce complex changes in the temporal properties of speech. Researchers found that rate of speech has an effect on the processing of different consonants (Miller, 1990).

Research that investigated the listening comprehension of compressed connected speech (faster rate of speech) found a relation between comprehension and language proficiency level (Conrad, 1989). Conrad asked her participants, who were native speakers, and high and medium high English as Second Language learners, to recall sentences that were compressed. The compression rate ranged from 40% to 90% compression of normal playing time. She found that overall recall of the time-compressed sentences decreased with decreasing proficiency in the language.

Noteworthy, native speakers of a language seldom find faster rate of speech a problem. On the contrary, they normally expect one another not to speak in a very slow rate of speech. For example, Buck (2001) found that English speakers normally speak at a rate of three words per second or 170 words a minute. He also affirmed that English native speakers' could cope with even faster speed before their comprehension fails. However, this can hardly be generalizable to learners. Griffiths (1992) showed that the faster the speed, the more difficult it is for learners to understand.

To investigate rate of speech and recognition of spoken words, Zhao (1997) used the computer to slow down speech and to allow learners control over linguistic input and rate of speech. His study had four conditions (1) no repetition of the recording or adjustment of speech rate; (2) no repetition, with the option of adjusting speech rate; (3) the option of both speech rate adjustment and repetition of any part of the recording; and (4) no adjustment of the speech rate, with the option of repetition. The results showed learners' comprehension was overwhelmingly higher when they were allowed to adjust the speech rate. Although this technique was helpful for recognizing words that were not recognizable in connected speech, it did so because it gave the learners the option to choose the slow speech. This in itself defeats the purpose of developing the necessary skills to cope with speech in real life, because learners in this exercise may always opt to slow the speed just to avoid dealing with rapid speech.

Additionally, the effect of pauses has also been investigated (Blau, 1990, 1991). In two experiments, she investigated the effect of pauses on listening comprehension. She found that, with almost all language proficiencies, pauses facilitated listening comprehension, as pauses made the rate of speech slower. However, she also found a relation between rate of speech and

learners' conversational skills, where high proficiency learners performed better with input that had a rapid rate of speech.

From the above brief account of the literature and characteristics of naturally occurring connected speech, certain intriguing questions arise. Given these conditions and properties, how can learners of foreign languages comprehend connected speech and decode the linguistic units of a given signal? Should language instructors be aware of the phonological changes that occur in the connected speech of both the target language (TL) and the native language (NL), and accordingly draw the learners' attention to them? Should listening tasks take into consideration the characteristics of connected speech?

This paper answers the posed questions in the affirmative, and suggests that instructors need to know about the phonological changes that take place not only in the TL but also in the learners' NL. Learners do not need to study these changes, but it is strongly believed that they will benefit a lot if listening tasks and exercises are devised in such a way as to address the phonological changes that are different from the phonological changes that occur in the connected speech of the NL.

*The following section is a summary of some of the phonological changes of American English and Arabic (Colloquial Egyptian) connected speech.*

### 3.0 Contrastive analysis of phonological changes

Both Colloquial Egyptian Arabic (CEA) and American English (AE) employ certain phonological processes, such as vowel deletion and assimilation of consonants within and across word boundaries. I consider these processes as corresponding phonological changes. In addition to these phonological processes, there are changes that are language specific, i.e. non-corresponding phonological changes. In this section I discuss both kinds.

A note is warranted to the instructor that the aim is not to teach the learners linguistics, or spend learning hours on teaching the rules. The purpose is to let students be aware that phonological changes happen in the NL as well as in the TL. The other purpose is to draw the instructor's attention to some sources of confusion and problems, which could hinder learners' listening skill, as well as comprehension

#### 3.1 Corresponding changes

##### 3.1.1 Assimilation in CEA and AE

In CEA the [l] of the definite article [ʔil] assimilates completely to the adjacent coronal segment of the neighboring word (Abu Salim, 1988). This assimilation takes place when two phonological words are concatenated in connected speech. The following example illustrates this point.

- |        |   |                       |
|--------|---|-----------------------|
| (1) a. | ʔilbint <u>ʔil</u> sikirteera →<br>the girl the secretary<br>'the secretary girl' | ʔilbintɪssikirteera   |
| b.     | huwwa ʔaal ʔinn <u>ʔil</u> dars →<br>'he said that the lesson is difficult'       | huwwa ʔaal ʔinnɪddars |

In AE, assimilation occurs in prefixes. The following prefixes *ad-*, *ab-*, *sus-*, *sub-* as in *adhere*, *admire*, *abhor*, *suspect*, *sustain*, *subdue*, *subsist* change and undergo complete assimilation in (2a) while partial assimilation in (2b), (adapted from Chomsky & Halle, 1968, p. 222).

- |     |    |            |   |           |
|-----|----|------------|---|-----------|
| (2) | a. | *adsume    | → | assume    |
|     |    | *adsist    | → | assist    |
|     |    | *adsign    | → | assign    |
|     | b. | *inperfect | → | imperfect |
|     |    | *compel    | → | compel    |

### 3.1.2 Palatalization in CEA and AE

In CEA, coronal stops palatalize. Watson (2002) classifies palatalization in CEA into two kinds: “weak palatalization” and “strong palatalization.” Weak palatalization is when the palatal feature is manifested as a secondary articulation, while the primary feature remains apical as in /t/ > [tʲ] and /d/ > [dʲ]. As for strong palatalization, it involves a switch in the place of articulation from apical to postalveolar, as in /t/ > [tʃ] and /d/ > [dʒ]. Palatalization in general is triggered by a following /y/, /i/, and /i:/, (adapted from Watson, 2002, p. 258).

- |     |          |                       |                     |
|-----|----------|-----------------------|---------------------|
| (3) | /nadya/  | na[[dʲ]ya ~ na[/dʒ]ya | Nadya [female name] |
|     | /inti/   | in[tʲ]i ~ ?in[tʃ]i    | you, fem. sing.     |
|     | /gidi:d/ | gi[dʲ]i:d ~ gi[dʒ]i:d | new                 |
|     | /tiktib/ | tik[tʲ]ib ~ tik[tʃ]ib | she writes          |

Palatalization can occur within and across word boundaries. However, across word boundaries, palatalization occurs most frequently when triggered by a palatal glide, (adapted from Watson, 2002, p. 282).

- |     |                     |                      |                                  |
|-----|---------------------|----------------------|----------------------------------|
| (4) | /na:mit yaʕni/      | na:mi[tʃ] yaʕni      | ‘she went to sleep, I mean’      |
|     | /il-walad yiʔullik/ | il-wala[dʒ] yiʔullik | ‘the boy tells you<br>fem.sing.’ |

As for palatalization in AE, it occurs within words and across word boundaries, as in the following examples (5a and 5b), (adapted from Zsiga, 2003, p. 282).

- |     |    |         |   |             |
|-----|----|---------|---|-------------|
| (5) | a. | habit   | → | habi[tʃ]ual |
|     |    | grade   | → | gra[dʒ]ual  |
|     | b. | hit you | → | hi[tʃ] u    |
|     |    | did you | → | di[dʒ]u     |

### 3.1.3 Vowel deletion in CEA and AE

Vowel deletion in CEA takes place across two words. For example, in the following examples, the preposition [fi] gets connected to the neighboring phonological word.

- |     |    |                               |   |                |
|-----|----|-------------------------------|---|----------------|
| (6) | a. | ʔana fi xidmitak              | → | ʔanaf xidmitak |
|     |    | <i>‘I am at your service’</i> |   |                |
|     | b. | fi issinema                   | → | fissinema      |
|     |    | <i>‘in the movies’</i>        |   |                |

In the examples, the vowel [i] in the preposition [fi. 'in'] gets deleted and hence the stray [f] connects to the pronoun [ʔana 'I'] as in (6a). As for (6b), the vowel [i] of the definite article [i[s]]<sup>1</sup> is deleted. Vowel deletion in CEA occurs because CEA does not allow two consecutive open syllables.

One common rule of connected speech in American English is the deletion of unstressed reduced vowels (Bailey, 1978; Dalby, 1986; Zwicky, 1972). For example, Zwicky (1972) maintains that vowels are deleted when they are in an unstressed position.

- (7) below → [blo]  
believe → [bliv]  
parade → [pred]

Unstressed reduced vowels also get deleted across word boundaries. Selkirk (1984) states that vowels in function words in their weak forms (i.e. unstressed and in connected speech) "are deleted and the surrounding consonants may also be modified or deleted because of the stressless status of the syllable" (1984: 335).

- (8) can pile → [kən ~ kɪn ~ kɪm] → [kɪm pail]  
need him → [ni ~ niɪd ~ niɪm] → [niɪd m]

### 3.1.4 Consonant elision in CEA and overlap in AE

In CEA, an initial glottal stop /ʔ/ is elided or deleted when it is preceded by another word. Sometimes only the consonant is deleted (9a) and sometimes the following vowel is deleted as well (9b and c). The /h/ is also deleted when it is in the final position, as (9d) illustrates

- (9) a. titxul ʔil miina → titxulilmiina  
'enter the port'  
b. da ʔinta → danta  
'that's you'  
c. ʔana ʔaxattu → ʔanaxattu  
'I took it'  
d. nifrah biih baʔa → nifrahbiibaʔa  
we are happy for him at last  
'expression: it is about time he got married'

In AE, alveolar stops are reduced or omitted when they occur between two consonants (Ladefoged, 2001). Ladefoged maintains that the /t/ in *most people*, and the /d/ in *sand paper*, appear as if they are deleted. He states, "the tongue tip gesture for the alveolar stop in 'most people' may not be omitted but is just not audible because it is completely overlapped by the following labial stop" (Ladefoged, 2001 : 59).

Acoustic evidence is provided by Zsiga (2003) where she investigated temporal overlap between two consonants. She collected 20 repetitions from four American English speaking subjects, 10 at a normal rate and 10 at a rapid rate, of pairs of words (e.g. *bed pan, bed can, bed tan, bad pen, bad ten, bad click, bad pick, bad tick, bad kick*). As observed, the first word ended in /d/ and the second began with /p/, /t/, or /k/ sounds. Zsiga found acoustic evidence (i.e. formant transitions) of overlap in the final /d/ before initial /p/, /t/, or /k/. She suggested the reason behind this finding is that the gestures (i.e. articulatory movements) involved in the second consonant begin before closure for the first consonant is reached.

### 3.2 Non-corresponding and language-specific changes

### 3.2.1 *Emphasis spread in CEA*

Emphasis (i.e. an emphatic sound) spreads across word boundaries. CEA and all Arabic dialects have emphatic consonants. These consonants are characterized acoustically with a low second formant frequency and articulatorily with the constriction in the pharyngeal cavity caused by the retraction of the tongue root (Broselow, 1979).

The data in (10) are adapted from Broselow (1979)<sup>ii</sup>. This data illustrate how the presence or absence of emphatics distinguishes otherwise identical lexical items, as the minimal pairs in example (10) show.

(10)	baat	'he spent the night'	BAAT	'arm pit'
	tiin	'figs'	TIIN	'mud'
	seef	'sword'	SEEF	'summer'

Emphasis spreads in CEA as it is illustrated in (11)

(11)	a.	TAA.lib	a student
	b.	TA.LA.BA	student
	c.	SAA.fi	clear, also a man's name
	d.	SA.FAA?	clearness, also a man's or a woman's name
	e.	RAA.gil	man
	f.	RA.GAA?	Hope, also a woman's name

Data in (11) illustrate the spread of emphatic consonants. In (11 a, c, and e) emphasis does not spread to the second syllable. However, in (11, b, d, and f) it does.

### 3.2.2 *Flapping in English*

American English has flaps as allophones of dental stops [t, d] intervocally. These are sounds made by the tip of the tongue first curled up and back. Then the tongue strikes the roof of the mouth in the post alveolar region as it returns to its a position behind the lower front teeth (Ladefoged, 2001 : 150). Flapping in American English, as observed by (Nespor & Vogel, 1986), is a rule that applies both within and across words. The following examples are adapted from (Nespor & Vogel, 1986, p. 46).

(12)	a.	water	warer
	b.	capital	capiral
	c.	wait a minute	waira minit.....
	d.	the white rabbit escaped from its cage.	
		.....	rabir escaped.....

3.2.3 *Vowel reduction in English*

As has been well established, in AE vowels undergo reduction if the vowel is in an unstressed syllable. For example, the vowel in the second syllable of the word “*present*” is reduced in the derived form “*pres[ə]tation*.” According to Selkirk (1984), the principle of rhythmic alternation is behind vowel reduction in American English. Selkirk calls it the monosyllabic destressing rule.

(13) a. *állý* (verb)

pőtáto  
dėvélop  
ãmérica

b. *wĩscónsin*

cõndítion  
ĩndícative

c. *ally* (noun)

sátire  
hárvàrd  
àlabáma  
cítátion

Monosyllabic distressing ( $\check{V}$ ) stipulates that a syllable be demoted or destressed if it satisfies one of the three conditions: (i) it is not the main-stressed or secondarily stressed syllable, (ii), it is immediately followed by another stressed syllable or it is final, (iii) it consists of a CV and sometimes a CVC (Selkirk, 1984: 119). The data in (13a) illustrate cases that contain CV syllables, whereas data in (13b) show the ones that contain CVC. Examples in (13c) do not undergo monosyllabic destressing because the stipulated conditions are not met.

3.2.4 *Phonological changes in CEA and AE connected speech*

Phonological changes in connected speech also differ in these two languages. CEA resorts to vowel epenthesis or deletion, and consonant assimilation obeying syllable structure rules. AE, on the other hand, in order to respect stressed syllables, adopts more radical changes in its connected speech. As observed above, consonants are deleted, or overlapped, and vowels are deleted, which in turn changes completely the features of a syllable. See the examples in (14) which illustrate some changes that occur in CEA and AE respectively.

## (14) a. CAE

bint simi:na	→	bintis mi:na	girl fat ‘a fat girl’
CVCC.CV.CVVCV		CVC.CVC.CVVCV	

## b. AE

<i>what do you eat?</i>		
wAt du yu it	→	wʌ ʒi’ə ít
CVC CV CV CV		CV CV VC

As observed in English, a great deal of compression takes place and syllables are sacrificed in the process. Although CEA allows vowel deletion as (14a) shows, consonants are not altered the way they are in AE.

### 3.2.5 Conclusion

Contrastive analysis shows that phonological changes in connected speech differ. English connected speech undergoes radical changes at the expense of syllables, which results in major phonetic alternations. CEA connected speech, on the other hand, resorts to minimal changes while respecting syllables structure rules and phonetic integrity as much as possible. The following table shows a sample of some of the phonological changes of connected speech that could pose problems to Arabic-speaking learners when they listen to English connected speech.

**Table 1:** A sample of phonological changes in English connected speech

Phonological change	
Consonant Assimilation	
AE Occurs in prefixes *adsume → assume; *inperfect → imperfect)	Attention must be drawn to the fact that assimilation is present in NL as well. However, the environment and grammatical category must be taught.
CEA Occurs to certain morphemes in certain environment, the definite article ʔilbintissikirteera → ʔilbintissikirteera)	
Vowel deletion	
AE Occurs when the syllable is unstressed below	Attention must be drawn to the fact that stress plays a role unlike the case in CEA, – where the syllable does.
CEA Occurs to obey syllable structure rules fi issinema → fissinema	
Consonant deletion	
AE Occurs when alveolar stops occur between two consonants	Attention must be drawn to the fact that consonants are deleted in CEA only to obey syllable structure rules. In fact, when there are a cluster of two consonants, a vowel is inserted and a consonant is not deleted.
CEA Occurs most of the time with glottal stops /ʔ/, and with /h/ to obey syllable structure rules ʔana ʔaxattu → ʔanaxattu	
Flapping in English	
AE Occurs within and between words at	Attention must be drawn to the fact that, to an Arabic-speaking ear, the consonant has

boundaries. water → warer wait a minute → waira minit	drastically changed.
Vowel reduction	
AE Very specific to English. Unstressed vowels are reduced presentation → pres[ə]tation'	Requires drawing attention and practice. Vowel reduction does not exist in CEA and could be a big problem in listening.

#### 4.0 Pedagogical implications

For decades, language textbooks and instructors have focused on listening comprehension as an approach for teaching listening. This approach measures learners' achievement in terms of their ability to provide answers to questions about facts and details in a given recording. Only recently have educators found that, in order to enhance listening comprehension, importance should also be given to honing a learner's listening skill (Field, 2008). Only when the code of the connected speech is cracked, can decoding the message take place and, accordingly, meaning building can happen. In other words, in order for Arabic-speaking learners of English to improve their listening comprehension, their listening skill first needs to be practiced. In this section, I discuss some of the activities English language instructors in the Arab world can use in their listening lessons to improve the learners' listening skill in English. Some of the activities mentioned below are adapted from Field (2008).

Field's (2008) book on teaching listening is a great resource for instructors of listening in foreign and second language contexts. He describes the strengths and weaknesses of the Listening Comprehension Approach, and introduces the Process Approach, which incorporates the strengths of the Comprehension approach, but adds the focused practice to improve learners' listening skill; interested readers are referred to the book for further details. The approach discussed below, The Listening Skill and Comprehension Approach (LSCA), follows Field's (2008) Process Approach, however, with some modifications to suit teaching English as Foreign Language in the Arab world. For example, it includes the addition of an activity based on the contrastive analysis between AE and CEA syllable structure rules. Aquil (2012a) found that when learners were engaged in a variety of activities, they implicitly learned the rule that alveolar stops are reduced or omitted when they occur between two consonants (see section 3.1.4). In a study checking the auditory representation of English phrases by Arabic-speaking learners of English, I found that when learners carried out a translation task, followed by an elicited imitation task (repeating the phrase), writing and reading tasks, their output did not have the Arabic epenthetic vowel between consonant clusters although they were not instructed to leave it out. For example, an Arabic-speaking learner often pronounces a phrase like [hand book] with a vowel inserted between the first and second word, e.g., [handɪbook]. However, after having completed the tasks, without being told the purpose, the learners in a reading task read the phrases without adding the epenthetic vowel.

##### 4.1 Listening Comprehension Approach (LCA)

Listening comprehension in language pedagogy has been defined as an active process of meaning construction by means of drawing on various information sources in order to interpret the intended meaning of a message (Faerch & Kasper, 1986). Basically, a certain theme runs through the literature in listening comprehension, namely, the distinction between what is called

top-down (knowledge-based), and bottom-up (data-driven) processing. The latter is thought to involve decoding speech signals, whereas the former is supposed to denote not just understanding the words, but also interpreting the speaker's intention and the wider context of a given communication.

As followed in the listening comprehension approach, an effective listening lesson is one that is divided into three stages: 1) pre-listening, 2) during listening, and 3) post-listening.

**Table 2:** Pre listening LCA

Pre- Listening	
1-	Pre-teach vocabulary.
2-	Discuss title and context.
3-	Discuss any visual media to help in activating schema and world knowledge.

**Table 3:** During listening in LCA

During Listening	
1-	Extensive listening
a.	Learners listen to the whole recording to get the gist, and ensure some familiarity with the content.
b.	Learners answer general questions, such as:
1-	How many speakers are there?
2-	Who are the speakers?
3-	How does the speaker feel, is s/he happy, angry, disappointed, defiant?
2-	Intensive listening
	Learners listen again to the recording and answer detailed comprehension questions in multiple-choice, true/false, and open-ended formats. Most often these questions are on the details and facts in the recording.

**Table 4:** Post listening in LCA

Post Listening	
	In the post listening stage the instructor usually:
1-	Teaches new vocabulary.
2-	Analyzes language, for example asks why the speaker used the perfect present tense in such and such a sentence.
3-	Has learners listen to the recording again, but pauses occasionally and asks learners to repeat what they hear.

Language educators expressed some concerns with the LCA approach, in spite of the fact that the format described above has survived to date. Some of the concerns are the following:

- 1- Format is not flexible.
- 2- Sequence of activities can be highly predictable.
- 3- Activities do not motivate students.
- 4- Intensive listening phase does not include focused questions.
- 5- Emphasis on drawing learners' attention to grammatical forms makes listening lessons mere reinforcement of newly learned grammatical rules.

Therefore, language educators started to question the validity of the LCA, and researched linguistics and its subfields -- such as sociolinguistics, psycholinguistics and second language acquisition -- to develop an approach that could improve listening skill along with comprehension.

#### 4.2 Listening Skill and Comprehension Approach (LSCA)

Researchers not content with the LCA as a teaching approach conducted needs assessment and surveys among the learners to investigate the problems learners have in listening to the TL.

Goh (1998) examined English Language learners' listening diaries. The learners were Chinese-speaking university students in Singapore. Goh found that learners often reported having problems with unfamiliar vocabulary and the blending and reduction of sounds. In a similar study, Goh (2000) found that, out of the 10 problems the learners have reported, five are connected to perceptual processing, i.e. lower level processing. Learners reported that they are : (1) unable to recognize words they know, (2) unable to chunk streams of speech, (3) missing the beginning of texts, (4) neglecting what follows when thinking about meaning, (5) concentrating too hard or being unable to concentrate. "Not recognizing words they know" is, in fact, the second most common problem reported by the learners in the study.

The listening skill and comprehension approach (LSCA) proposed here, follows the customary lesson plan of LCA. It divides a listening lesson into the same stages, pre-listening, during listening and post listening. However, it differs from LCA in that it provides the learners focused practice on form and meaning. For example, it incorporates exercises and tasks on phoneme, syllable identification (decoding tasks) and discrimination, and guided questions on meaning (meaning-building tasks). The instructor does not need to cover all the tasks in one listening lesson. What follows is just an exposition of a variety of activities focusing on listening as a skill. It is left to the needs of the class as to which ones to carry out. Note that most of the activities are learner-centered, unlike those in the LCA, which are teacher-centered.

**Table 5:** Pre-Listening in LSCA

#### Pre- Listening

Learners:

- 1- Are pre-taught vocabulary that is critical; just 4 or 5 words that are essential and critical for understanding.
- 2- Discuss title, context and what issues or details are likely to occur.
- 3- Take notice of visual media to help in activating schema and world knowledge.
- 4- Devise questions in anticipation of the information in the recording.
- 5- Reflect for two minutes what words may come in the recording.

**Table 6:** During Listening in LSCA

#### During Listening –

Instill multiple listening steps, however, with a focused purpose.

Step 1- Same as in Extensive listening- Answer general questions. Learners:

- a. Listen to the whole recording to get the gist and ensure some familiarity with the content.
- b. Answer general questions, such as:

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How many speakers are there?  
 Who are the speakers?  
 How does the speaker feel, is s/he happy, angry, disappointed, defiant?

Step 2-

- 1- Listen to the recording again, teacher underlines on the board words previously brainstormed by learners in the pre-listening stage.
- 2- Listen again, learners underline on a sheet words and phrases they already know that came in the text.
- 3- Compare with their peers.

Step 3

- 1- Listen to a segment of the recording and complete an information gap task, compare with peers.
- 2- Listen to the segment again and check what they have written or filled, verify answers.

Step 4

- 1- Listen to the segment again and guess meaning from the context words and phrases written on a worksheet.
  - 2- Compare with peers.
- 

**Table 7:** Decoding the message: Exercises on the phoneme

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During Listening

Phoneme discrimination

Instructor extracts some minimal pair words from the recording. Instructor asks

Learners to:

- 1- Given a choice in writing, decide if they heard (A or B).
  - 2- Transcribe one member of the minimal pairs (A or B)
  - 3- Raise their left hand when a sound represented by a certain phoneme (e.g./ p/) or the right hand if they hear the phoneme (/b/). A modification is to ask learners to write the entire word.
  - 4- Hear minimal pairs and, on a worksheet, see pairs of words, e.g., back/pack, bill/pill, bush/push and decide what they hear the instructor say.
  - 5- Given a written choice, decide if they hear a reduced vowel or a full vowel.
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**Table 8:** Decoding the message: Exercises on the syllable

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During Listening

Exercises on the syllable

Instructor extracts some words of multiple syllables from the recording and asks

Learners to:

- 1- Listen and write the syllables they hear.
  - 2- Listen to words extracted from the recording that are on a worksheet. Learners identify the syllables that occur in more than one word. For example, *consumption*, *Egyptian*, *somebody*, *reckon*.
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- 3- Write down new words (from a recording) that have consonant clusters that are not common in their NL. For example, prank, strip, slack.
  - 4- Write down instructor's dictation of words of graded syllables. For example: A ray, pray, spray, sprain, strained.
  - 5- Listen to extracts where the alveolar stop is deleted (hand book →hanbuk), on a worksheet. Learners decide on the translation in the NL. Learners listen again to the extracts, but this time in full sentences and are asked to repeat phrases. After that, learners are asked to listen and write the same extracts. Finally, learners are asked to read the same extracts from a transcript.
  - 6- Learners detect strong salient syllables in a recording of a phrase or a sentence and write the words down. Instructor discusses and writes on board. Learners listen again, but this time add weak syllables in the vicinity. Class discussion follows, and learners listen with the help of a transcript.
  - 7- Listen to words with strong syllables and guess what the word is: For example /twen/ for *twenty*, /brek/ for *breakfast* /hæps/ for *perhaps*, /twiin/ for *between*.
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**Table 9:** Decoding the message: Exercises on connected speech

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**During Listening**


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Exercises on connected speech

Segmentation

Instructor plays a sentence from a recording, or new recorded material from a connected speech stretch, and asks

Learners to:

- 1- Transcribe words they understand. Instructor replays, and learners add more words. Learners compare with peers.
  - 2- Fill in missing words. Instructor gives them a transcript in which words (content as well as function words) are missing, and learners are asked to fill them in.
  - 3- Listen to sentences whose transcript they have, and add the stress to the strong syllable.
  - 4- Hear a stretch of running speech and a sequence of unfamiliar words whose word boundaries are marked by the segmentation system used in English, which is mainly strong syllable followed by weak syllable. Learners attempt to write the words. Instructor replays and explains the difference in the segmentation procedure of TL compared to that in NL (based on the contrastive analysis; see sections 3.0, 3.1 and 3.2 above).
  - 5- Listen to an extract beyond their level and focus on prefixes and suffixes. Instructor replays the recording, and learners transcribe only the words, which begin with prefixes and end with suffixes. Compare with peers. For example, *premeditate*, *adhere*, *concede*, *endurable*, *smoker*, *modernize*, *mountainous*.
  - 6- Listen to an extract (longer than a phrase or a sentence) in faint audio. Learners tune in on stressed syllables and write them down. A
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discussion follows. Learners listen again and write all other syllables in the vicinity. On the subsequent listening, learners put the stress on the syllables. A discussion follows. Learners listen again with the help of a transcript with the stressed syllables and reduced vowels marked.

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**Table 10:** Meaning building

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**During Listening**


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**Meaning building**

In addition to questions on facts and details that measure learners' ability to report facts at a sentence level as expressed by the speaker, as followed in the LCA, LSCA adds questions that focus on the learners' ability to make connections between parts of the recording or what the speaker says and has said.

- Inference questions

With this type of question, learners are trained to trace implicit connections between sentences and facts in the recording. One variation is to make learners listen to sentences and pause between them. During the pause learners discuss the connection between the sentences. The discussion can be either in NL or in TL, depending on the learners' proficiency in the TL.

- Backward and forward reference

Learners are given worksheets with words and phrases extracted from the recording. They listen to some extracts of the recording and are asked to write R if the words or phrases refer back to something already mentioned, or N when they think it is a new subject.

- Interpretation questions

Learners interpret an utterance extracted from the recording as a whole by completing tasks such as the following:

- 1- Recognize the ultimate goal of the recording.
- 2- Recognize understatement and vague language.
- 3- Recognize idiomatic language and metaphor.

- Locating main points

- 1- Learners listen to a summary in simple language of the recording they are about to hear; a whole class discussion follows.
- 2- Learners listen to the original recording, and each time they hear one of the main points being made, they write it down.
- 3- Learners listen again to verify their choices and also write down two or three words that are in the vicinity of the main points previously written down.
- 4- Learners listen again to verify, but the instructor pauses at the main point and asks learners what extra information they can add.

- Identifying main points

- 1- On a given worksheet, learners have a list of main points to be made by the speaker in a recording. The points are not in the order in which they appear in the recording.
  - 2- Learners number the points as they hear the speaker making the points.
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- Deep processing paraphrase

True/False updated

- 1- Learners check some statements against the information in the recording in the True/False format. However, the statements may not have the same order as in the recording and may not use the same words.
- 2- Learners are asked to mark the statements True if they think they are correct. If they think the statements are wrong, they mark them False and correct them. If the statements are not mentioned at all in the recording, they mark them with a questions mark. A class discussion follows.

Paraphrase matching

- 1- Instructor extracts and re-records 10 sentences from the recording.
- 2- On a given worksheet are 10 sentences, some of which are a paraphrased version of the original sentences in the recording.
- 3- Learners read the sentences on the worksheet and make sure they fully understand each sentence. Then they listen to the extracted and pre-recorded sentences and decide whether the sentences they hear mean the same as the sentences they have read.

**Table 11:** Post listening

Post listening
<p>Reflection and summary</p> <p>In addition to the tasks in the listening comprehension, which are:</p> <ol style="list-style-type: none"> <li>1- Teach new vocabulary.</li> <li>2- Analyze language.</li> <li>3- Have learners listen to the recording again, but pause occasionally and ask learners to repeat what they hear.</li> </ol> <p>The proposed approach adds the following exercises and tasks:</p> <ol style="list-style-type: none"> <li>4- Take selective notes.</li> <li>5- Mentally list main points.</li> <li>6- List the recording's or speaker's main points and then decide which are of primary importance.</li> <li>7- Write a summary, mention which points added to the learner's knowledge.</li> </ol>

As observed, the LSCA combines message deciphering with meaning-building exercises. The format is flexible, unlike the format in the LCA. The sequence of the activities is not predictable the way it is within the LCA. This way, the learners are always motivated. The code cracking activity takes into consideration the potential of NL transfer and, accordingly, focuses the learners' practice on TL-specific connected speech phonological changes. The activities are learner-centered and devised according to their needs. Last, but not least, one of the ultimate goals of the approach is to equip the learner with strategies s/he can transfer to subsequent listening tasks. The LSCA gives the learners enough practice for them to acquire certain listening strategies transferable to a wide range of listening tasks.

### 5.0 Conclusion

In conclusion, we have seen the extent to which listening comprehension of naturally occurring connected and running speech can be problematic. This is because of the features and characteristics of connected speech, for example, phonological changes. Discussed changes are assimilation, consonant deletion and contraction or overlap, vowel deletion and reduction, and fast delivery or speech. Pedagogical tasks pertaining to teaching listening need to consider these changes in order to improve learners' listening skill. This, in turn, will enhance learners' listening comprehension. It is very important to remember that learners may not be able to answer comprehension questions on a recording when the code of the message is indecipherable. Listening lesson plans need to take this into consideration, as this paper suggests and asserts.

### About the author:

**Rajaa Aquil**, Assistant Professor of Arabic at Georgia Tech, Atlanta, Georgia, USA. Her research and work is on psycholinguistics, specifically spoken languages. She published studies in the Perspectives on Arabic Linguistics and in the Journal of Psycholinguistic research. In foreign language pedagogy, she focuses and works on L2 listening skill.

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<sup>i</sup> Note that the [s] is the outcome of the complete article assimilation as discussed earlier.

<sup>ii</sup> Capital letters are used to represent emphatic consonants, as in Broselow (1979).