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Factors Affecting the Intelligibility of Non-native Speakers of English

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Resumen

In today's global village, it is imperative that non-native speakers of English are intelligible to native speakers as well as other non-native speakers. After defining the term intelligibility, this article identifies, explains and exemplifies the important factors involved in the pronunciation of English by non-native English speakers to native speakers of English.

Introduction

One of the goals of language learning is to communicate in an intelligible manner in the new language in order to maintain social relationships and to service information and ideas. This can be a formidable task for non-native speakers of English. For this communication to be successful, the listeners must be able to understand the speaker's words as well as his or her meaning and intent.

Students who study English want to be able to communicate intelligibly in that language. However, some students report that they often are not understood by native English speakers in spite of having reached an intermediate level in their English studies.

In the field of applied linguistics, much research has been done in intercultural communication and in the factors that contribute to being intelligible when speaking. In the past, it was thought that focusing attention on making the correct sounds would lead to error-free, native-like pronunciation

which would then lead to speaker intelligibility. As Keys (2000) points out “pronunciation training is no longer simply a question of teaching the sound system of the target language” (p. 90).

So then what factors are important for intelligible speech? The aim of this work is to provide a definition of intelligibility and identify the factors that affect the intelligibility in speaking of non-native speakers of English. For each of the factors, both segmental and suprasegmental, explanations and examples are given.

Intelligibility

Nowadays there is a renewed interest in pronunciation training as English is recognized as the lingua franca and the need to communicate intelligibly in English becomes vitally important for many people. A review of the literature and research with respect to pronunciation and intelligibility in non-native speakers of English informs us that the goal of pronunciation training is intelligibility rather than native-like pronunciation. But what does intelligibility mean? Researchers Munro and Derwing (1999) define intelligibility as “the extent to which a speaker’s message is actually understood by a listener” (p. 289), i.e. the meaning of what one says is received and understood. Goodwin (2001) defines it as “spoken English in which an accent, if present, is not distracting to the listener” (p. 118) and also states that “the intelligibility of one’s pronunciation is measured by the *success of the interaction*” (p. 127, emphasis in original). In other words, if the message is understood, then the pronunciation is intelligible.

Note that intelligibility is distinct from “comprehensibility, which refers to the listener’s estimation of difficulty in understanding an utterance. It is also distinct from accentedness, which is the degree to which the pronunciation of an utterance sounds different from an expected production pattern” (Munro, Derwing & Morton, 2006, p. 112). Working with this definition of intelligibility, it follows that *perfect* mastery of the sound system is not a necessary condition although “it is clear that learners whose command of sounds deviates too broadly from standard speech will be hard to understand” (Goodwin, 2001, p. 118).

In her article, Jenkins (2004) asserts that pronunciation training must equip non-native English speakers to interact with native English speakers. She writes that there is a move away from looking for native-like pronunciation to looking at the listener perspective. Pronunciation should be concerned with “factors involved in the intelligibility or comprehensibility of non-native speech to native listeners” (p. 113).

Factors Affecting Intelligibility

Various researchers (Florez, 1998; Goodwin, 2001; Hall, 1997; Wei, 2006), in writing about pronunciation, identify two features for sound production that are important for intelligibility in

speaking: segmentals and suprasegmentals. These features are explained in more detail in the following sections.

Segmentals

Segmentals are the individual vowel and consonant sounds of the language i.e. the phonemes and their combinations that make up the spoken language. Florez (1998) defines segmentals as “the basic inventory of distinctive sounds and the way that they combine to form a spoken language” (p. 3). Note that orthography and pronunciation do not have a one-to-one relationship in English. For example, the sound *f* can be written as *f* as in *forever*, *ph* as in *telephone* and *gh* as in *enough*. The focus here is on the sounds rather than their written presentation. In this section on segmentals, consonant and vowel sounds, minimal pairs, word stress and accentedness will be presented.

Segmentals: Consonant and vowel sounds

In general, consonant sounds in English are fairly straightforward. There are 21 consonant letters but 24 sounds, some of which are formed by two adjacent letters such as *ch* or *sh*. However, there are situations where the sounds change and these situations may cause pronunciation difficulties for English language learners. When a consonant appears twice in a word, the position in the word affects the sound. This is called positional variation. Goodwin (2001) provides an example of this as follows “the sound /p/ occurs twice in the word *paper*, but the first /p/ is accompanied by a small puff of air called *aspiration* while the second /p/ is not” (p. 122, emphasis in original).

Clustering occurs when there are more than two consonants together in a word. An example of clustering would be the word *tests* where there are three consonants together. This clustering can cause difficulties for learners if it does not exist in their native language. As well sounds that do not exist in the learner’s native language can cause difficulties. For example, native Spanish speaking students tend to have difficulty with the *th* sound in English as it is not part of their native language sound system.

Vowel sounds are the sounds within a syllable that can be lengthened or shortened allowing the five English vowels (a, e, i, o, u) to have 45 different sounds. As Goodwin (2001) writes vowel shortening generally occurs on the unstressed syllable in a multi-syllabic word. For example in the word *parade* where the stress is on the second syllable, the sound of the first *a* is shortened. In the word *paradise* where the stress is on the first syllable, the sound of the second *a* is shortened.

The schwa, represented by the phonetic symbol /ə/, is a unique English sound which is pronounced like ‘uh.’ It replaces the vowel sound in unaccented or unstressed syllables in multi-syllabic words. Some examples of the schwa are the sounds of the vowels underlined in the following words: *banana, excellent, decimal, button, and medium. Unintelligibility can result when the vowel in*

an incorrect syllable is chosen for stress or shortening, or when an incorrect vowel sound is chosen, as the word is not understood or is misunderstood by the listener.

Segmentals: Minimal pairs

According to the British Council ELT Terminology Database, “minimal pairs are pairs of words which only have one sound different” and “are a useful way to highlight a sound in a meaningful context and also to show the learner how important correct pronunciation of the sound is.” (British Council, n.d.). In minimal pair exercises, learners attempt to distinguish a pair of words both in listening and in speaking that are different by one phoneme. For example:

- a) ship versus chip
- b) think versus thing
- c) man versus men

In a), the initial consonant sounds of the words, *sh* and *ch*, are contrasted. In b), the final consonant sounds, *k* and *g*, are contrasted. In c), the vowel sounds, *a* and *e*, are contrasted.

Segmentals: Word stress

Word stress refers to the syllable in a word that is stressed when spoken. This means that the syllable is longer, louder, clearer, and has a pitch change that is usually higher. Multi-syllabic words can have more than one stressed syllable but only one receives primary stress. The others receive secondary stress. For example, the word *intelligibility* is a multi-syllabic word that has seven syllables in-tel-li-gi-bil-i-ty. The fifth syllable, *bil*, has the primary stress while syllable two, *tel*, has secondary stress and the other syllables are unstressed.

Word stress is an important feature in pronunciation because mistakes can and do cause unintelligibility. Pathare (n.d.) explains that when the wrong syllable in a word is stressed, it can make the word very difficult to understand. In some cases, it can change the meaning or type of the word. For example if we put the stress on the first syllable of the word *desert*, we are using it as a noun that refers to a dry barren place. However, if we put the stress on the second syllable, we are using it as a verb meaning to abandon. Also, phonologically, stress on the second syllable represents the noun for a sweet that follows a meal. Although the speaker may be understood due to context, mistakes could irritate the listener and prevent communication from taking place.

Segmentals: Accentuatedness

Reseachers have found that many people including students and teachers believe that speaking English with a foreign accent is the cause of unintelligibility for non-native English speakers (Munro & Derwing, 1999; Derwing, 2003; Scales, Wennerstrom, Richard & Hui Wu, 2006). However, research (Scales et al, 2006; Munro, 2008) informs us that foreign accent is not a significant factor in

intelligibility and that messages spoken by non-native English speakers who do not sound like native English speakers are understood by both native and non-native listeners of English.

Suprasegmentals

Suprasegmentals are those aspects of pronunciation beyond the individual sounds and individual words i.e. beyond the segmentals. In this section on suprasegmentals, pausing, rhythm, intonation, primary stress, connected speech and reduced speech will be presented.

Suprasegmentals: Pausing

English speech is divided into message units which are also referred to as thought groups, breath groups or tone-units. These are chunks of speech that require a speaker to pause or break. They are words that belong together to form an idea and provide a place to pause and take a breath.

Pausing helps the listener to evaluate new and old information and to process the messages more easily. In addition, as Goodwin (2001) writes “pausing in different places can cause a change in meaning” (p. 119). Pausing is important in speaking because pausing too frequently can cause difficulty in intelligibility for the listener because it does not allow easy or effective processing of the message. In addition, pausing in the wrong place does not allow a listener to evaluate new and old information.

In the following sentence, the slash (/) shows the message units and the correct places to pause where each unit represents a meaningful grammar unit:

To communicate effectively, / you have to be careful / just how you group /
the words you use.

Pausing frequently and in the wrong places would look like the following sentence:

To communicate / effectively you have to be / careful just how / you group the
/ words you use.

This incorrect, too frequent pausing makes it difficult for the listener to understand the message. The following example demonstrates the difference in meaning caused by pausing in alternate places:

Who is late?

1. John said / the teacher is late.
2. John / said the teacher / is late.

In sentence 1, the effect of the pausing after *said* is that the teacher is the person who is late. However in sentence 2 where the places to pause are changed to after *John* and after *teacher*, John is now the person who is late.

Suprasegmentals: Rhythm

As Setter (2006) writes, English speech rhythm can be characterized as stress-timed. This means that the rhythm of the spoken language has a distinct pattern of stressed and unstressed syllables with beats occurring at approximately regular time intervals. In contrast some other languages such as

Spanish and French are characterized as syllable-timed languages. These languages are distinguished by a tendency to give every syllable equal stress, timing and length.

Goodwin (2001) refers to rhythm as “the highlighting of certain syllables over others in English through syllable length, vowel quality, and pitch” (p. 120) where syllable length can be stretched out or quick, vowel quality can be full or reduced, and pitch can be loud or quiet. The stressed syllables are usually in content words which include nouns, main verbs, adjectives and some adverbs and are the words that carry more meaning within a message unit. Function or structure words which include prepositions, pronouns, articles and auxiliary verbs are generally unstressed and must be spoken between the regular beats of the content words. In this way, message units of various lengths can in fact have the same rhythm or number of beats.

An example of this follows:

Friends	need	help.
My friends	have needed	help.
My friends	have been needing	some help.
My best friends	have been needing	some help.

In each of these sentences, the number of words and thus syllables, is different. However, they have the same number of stressed syllables as shown by the highlighting. Thus each sentence will have the same rhythm or number of beats when spoken.

Setter (2006) points out that a lack of this stressed-timed rhythm in speaking English can result in breakdowns in communication between non-native speakers and native listeners. As well the speech sounds labored, unnatural and monotonous, and can cause irritation on the part of the native listener.

Suprasegmentals: Intonation

Another suprasegmental feature is intonation which Chun (2002) refers to “as *speech melody* or *sentence melody*, terms that focus on pitch variations and modulations” (p. 3, emphasis in original).

Pitch refers to the highness or lowness of sound due to vibrations in sound waves. Each language and each person has a pitch range which is the span of sounds from high to low of that person’s speech. Within each message unit, there is pitch movement which can be rising, falling or a combination of the two. This pitch movement takes place on the most important syllable in the message unit.

As an essential part of intonation, this pitch movement gives meaning to the message by affecting how things are said as opposed to what is said. It can be as important as word choice because it aids communication by conveying meaning, attitude and emotion that go with the spoken

words. Misunderstandings and/or communication breakdowns can result by sending a different message than what was intended through the misuse of intonation. Without the use of intonation, speech becomes monotonous and can result in loss of interest on the part of the listener.

In her article, Jenkins (2004) writes that discourse intonation provides for intonation dependent on the communicative function of the discourse, in particular using a falling tone for unshared information and a falling-rising tone for information that is shared. Thus changes in the speaker's intonation convey assumptions about the listener's knowledge of the topic under discussion.

Suprasegmentals: Primary stress

Primary stress, which is also called prominence, nuclear stress, or tonic syllable, refers to the syllable that is the most emphasized in each message unit. This is distinct from word stress, discussed previously, as it concerns the stress within groups of words. It is an important aspect of intelligibility because "a word may be given less weight because it has been said already, or it may be given more weight because the speaker wants to highlight it" (Kenworthy, 1987, p. 11). It involves vowel lengthening and a pitch move. The prominent syllable chosen by the speaker depends on the communicative intent. In the following example, the same sentence answers three different questions by changing the syllable that receives the primary stress. The highlighted syllable in each sentence receives the primary stress.

- | | |
|----------------------|---|
| I am <u>eat</u> ing. | answers the question What are you doing? |
| I <u>a</u> m eating. | answers the question Who is eating? |
| I <u>a</u> m eating. | answers the question Why aren't you eating? |

Ling Low (2006) studied deaccenting of old or given information in native English speakers and non-native English speakers to see if there were differences and if these differences caused problems in intelligibility in communication between the speakers. Measuring pitch and duration of given information in sentences, she found that differences between British English (BE) speakers and Singapore English (SE) speakers in deaccenting affected interpretation by the BE speakers of the SE speech. As Ling Low writes "The findings from the current study have important implications for the international intelligibility of non-native varieties of English that do not distinguish between new and old information via differences in accent placement" (p. 755).

Suprasegmentals: Connected speech

Connected speech or linking refers to adjustments made between words to make the connection smooth and pronunciation easier. It occurs when a word ends with a consonant and the next word begins with a vowel. For example, in the question *Why don't you find out?*, the words *find out* are connected such that they sound like *fine doubt*. In authentic, everyday speech, the sounds are

continuous without clear boundaries between the different words. As Goodwin (2001) writes, “the boundaries between words seem to disappear” (p. 121).

The sounds of word endings provide important information that can be lost if the endings are left off in connected speech. As the following examples adapted from Goodwin (2001) demonstrate, the ending of the verb *live* connected with *in* makes the difference between present and past tense.

present tense: They live_in Tijuana.

v linked with **in** to sound like **li vin**

past tense: They lived_in Tijuana.

d linked with **in** to sound like **live din**

Often non-native speakers of English try to pronounce each word or each sound precisely instead of linking the words or sounds together. When non-native speakers do not use connected speech, they tend to sound overly formal and very unnatural, and can be unintelligible to their listeners.

Suprasegmentals: Reduced Speech

Reduced speech, also called trimming, refers to the situation when unstressed syllables are de-emphasized or shortened in order to speak quickly and maintain the rhythm. Clear articulation of individual sounds is abandoned in the interests of speed and ease of speaking. In order to keep the rhythm of English, many function words often are not fully said by native speakers. Many function words have two forms: a full stressed form and a reduced unstressed form depending on the context of use. An example provided by Goodwin (2001) demonstrates the difference between these two forms:

	Full stressed sound	Reduced unstressed sound
has	He <u>has</u> ?	What <u>has</u> he done now?
to	Do you want <u>to</u> ?	a ticket <u>to</u> Miami

In addition to these unstressed syllables in reduced speech, there are many contractions such as **there's** for **there is** which are shortened forms of words or phrases and are widely used in spoken English.

Vowel trimming occurs when the vowel sound is omitted as in the word *business* where the **i** is not pronounced. Consonant trimming occurs when a consonant sound is omitted as in the word phrase *the last page* where the **t** on *last* is not pronounced.

Suprasegmentals are important in pronunciation because listeners expect speakers to use these pronunciation features of pausing, rhythm, intonation, stress, connected and reduced speech. Wei (2006) writes “as listeners expect spoken English to follow certain patterns of rhythm and intonation, speakers need to employ these patterns to communicate effectively” (p. 2). Non-native English speakers need to use these features because they “work together to package our utterances in a way that can be processed easily by our listeners” (Goodwin, 2001, p. 122).

Conclusions

This paper describes the factors that affect the intelligibility of non-native English language speakers to native listeners. It reveals that both segmental and suprasegmental factors affect the intelligibility of non-native speakers of English. It shows that intelligibility does not require native-like pronunciation. It also shows that in spite of information to the contrary, many non-native students of English as a second or foreign language believe that segmental factors such as accentedness are the most important factors in their intelligibility when speaking English to native speakers.

From a sociolinguistic perspective, there is evidence that some native speakers make negative judgments of non-native speakers. A study by Derwing (2003) found that non-native speakers who speak with a foreign accent are often judged by listeners as “less educated, poorer, less intelligent, and so on” (p. 548) than those who speak without such an accent. Other evidence (Lippi-Green, as cited in Kumaravadivelu, 2004) shows that people in the United States have not been hired because of their accent. Clearly the general public also needs to be educated in accepting the accents of non-native English speakers.

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