

PERCEPTION OF CONTINUOUS SPEECH IN SECOND LANGUAGE ACQUISITION

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ABSTRACT

The purpose of the study is to show the influence of phonological and phonetic features on perception and comprehension of continuous speech in listeners who are not native speakers of English, but who have been taught the standard British English for at least eight years. Results of the testing show one common feature: several successive exposures to the same acoustic material do not improve the perception and comprehension but they confirm the initial impression.

SPEECH PERCEPTION IN THE MOTHER TONGUE

The study of speech perception is faced with two major problems: the first is to determine the phases involved in recognizing the spoken word; the second is to identify the nature of different types of context that influence these phases.

Phases of spoken word recognition

The process of recognizing a spoken word begins with the 'initial contact phase' when a listener takes the speech wave as input from which he abstracts the representation which contacts the internally stored form-based representations associated with each lexical entry [1]. These are not yet linguistic units, i.e. phonemes and syllables, but they function as mediators between the acoustic wave and abstract linguistic units. They are the so-called 'acoustic cues'.

The lexical entries that match the contact representation to some degree are then activated - the 'activation phase'. Theories differ in determining the status of activated words: some believe that all lexical items are equally activated, while others claim that their status depends on their frequency of occurrence in the language.

After initial contact and activation of the lexicon, the sensory input continues to be mapped onto the chosen lexicon unit until the intended lexical entry is selected - the 'selection phase'.

The end-point of the search phase is 'word-recognition', i.e. the moment when

a listener has already determined which lexical entry he has heard. The precise moment when this takes place is said to be before a listener has completely heard the word.

Context effects

Context is said to play an important role in spoken word recognition. Psycholinguists generally agree that lexical processing depends on two broad classes of information: on the one hand, there are representations computed from the sensory input, on the other, there are representations constructed from the previous context using higher sources of knowledge (e.g. lexical, syntactic, semantic, pragmatic).

A very broad distinction between two types of context is the distinction between structural and non-structural context.

Structural context are the constraints according to which elements can be combined into higher-level linguistic units and can be applied to the phoneme, morpheme, phrase, utterance and discourse levels.

Non-structural context does not influence the building up of higher-level representations, but rather it influences the recognition of one word in relation to another.

There are different views regarding the exact moment when different contexts influence the recognition of words and phrases. In the so-called interactive view contexts may intervene throughout lexical processing, thus altering the choices that have already been made.

Perception of continuous speech

The basic difference between the study of isolated speech sounds and the study of continuous speech is that the former investigation is carried out in more or less artificial circumstances, whereas the study of continuous speech normally observes conversations with meaning and substance, where people listen for the message, not isolated sounds.

There are two views regarding the perception of continuous speech in mother tongue: the passive one, according to

which listeners try to identify each word as if it were an isolated word, and whenever they fail, they guess. According to the active view, listeners use linguistic constraints in the perception process. It looks as if they listened for some words or phrases and ignored the others. A reason why this view is a more appealing one is that normal speech is in itself unintelligible and it is only an illusion that we think it is clear [2]. Another evidence in favour of the view that the perception of continuous speech is not merely putting together of isolated sounds is what Clark & Clark wittily call 'cocktail party phenomenon'. The idea is that although we are surrounded by several speakers, speaking about different things and to different people, our ears are able to pick up from the excess of linguistic and above acoustic information only those items which belong to the speech of the person we are talking to.

SPEECH PERCEPTION IN NON-NATIVE SPEAKERS OF ENGLISH

The question is whether non-native speakers of a certain language perceive the spoken word in the same way as the native speakers. At this point we can only imagine some points in speech perception where problems are likely to arise.

The four phases in the recognition process - taking in of the acoustic material, attempting to organize phonological representations into constituents, building constituents into higher representations, and identifying all propositions - are not applied one after another, but are all in action at the same time and they work well with the native speakers.

With non-native speakers the first problem arises when they cannot succeed in identifying the speech sounds correctly. There are several reasons for that among which the most important one is the lack of expectation about what words are likely to sound in the foreign language. This may particularly be the problem of those non-native speakers who are used to a strong relationship between sounds and spellings in their mother tongue, and are exposed to a language where this is not the case (e.g. Slovenes learning English). Even if the initial phase is successfully fulfilled a non-native speaker may not recognize the speech sequence correctly because of the grammatical nature of the sequence or poor vocabulary.

What can be expected from students of English with advanced knowledge of English, when they are exposed to spoken English, and particularly when they are exposed to spoken non-standard variants of English? For that purpose an experiment with native speakers of Slovene, all first year students of English at the Department of English and German Studies at the Ljubljana University, was carried out.

THE EXPERIMENT

The purpose of the experiment was to examine the perception and understanding of spoken RP and two non-standard British accents: popular London (Cockney) and Scouse with regard to phonological and phonetic diversities of the three variants. Another purpose was to find out how and to what extent different contexts help informants to better understanding.

The informants were tested in listening comprehension and in dictation. The dictation test was to show whether different context effects are in play throughout the perception process, thus correcting wrong selections simultaneously.

The informants were divided into two groups of fifty students of which one group was tested in listening comprehension, while the other did the dictation test of the same recording. They were tested in all three varieties of British English. Results of both tests were first analysed individually and then compared.

ANALYSIS AND EVALUATION OF RESULTS

Listening comprehension

In listening comprehension tests students listened to the same recording twice: after the first round they were given a few very general questions, while after the second round the questions were more detailed. The results, regardless of the accent, showed one common feature: after the second listening the comprehension of the recording did not improve; with some students the number of correct answers after the second listening even fell. This brought us to the conclusion that several successive exposures to the same acoustic material do not influence the perception and understanding in the sense of improving it. Instead, they confirm the initial

impression, rather than correct or improve it.

The influence of the phonemic and phonetic differences of Cockney and Scouse as against RP were not essential for success in listening comprehension. They must have been overcome by the help of the semantic context.

Dictation

Types of mistakes that appeared in dictation can be roughly divided into two groups: (a) misperceptions on the basis of phonemic resemblance, i.e. correct words or phrases replaced by words or phrases that acoustically resembled the correct words, but were completely inappropriate in the given context; (b) omissions of words, phrases or whole sentences. Most interesting were mistakes under (a) which were either single word errors or multiple word errors. The latter we believe resulted from the correct perception of the stressed syllable on the one hand, and incorrect perception of word boundaries on the other. It looks as if the phonemic and phonetic variations affecting the consonant clusters at word boundaries were responsible for these misperceptions. Examples:

RP: trouble getting *their breaths*, became, trouble getting *their best*, or, the *Upper Circle*, became, *up in circle*.

Cockney: they've all been *sentenced to the guillotine*, became, they've all been *sent guilty*.

Scouse: contamination *source*, became, contamination *sauce*.

Very many multiple word errors resulted in homophones which did not fit the grammar or the context. This was particularly frequent in Cockney and Scouse, where a sequence containing one or two "unfamiliar" phonemes was not identified correctly.

Examples:

Cockney: the second one *today*, became, the second one *to die*, or, *they* became *I*.

Scouse: *My old fellow used to fish in that river* became *My offer was officially that river*, or, *I've no fancy letters after me name* became *I've no funny lessons*, or, *intermittent dumping* became *intimate jumping*.

Results like these led us to the conclusion that in the case of dictation, the perception process in non-native speakers of English resembles more the perception of isolated words than the perception of continuous speech where

the role of semantic context is decisive. We believe that the non-native speakers when they are asked to note everything they hear, listen for sounds and words rather than meaningful sequences. Their efforts to catch every single word very often result in meaningless (sometimes completely ungrammatical or nonsense) word sequences. This proves that the influence of any context is absent.

Listening comprehension vs. dictation

The comparison of the results in listening comprehension and dictation showed that the relationship between the errors in dictation and incorrect answers in listening comprehension, except in one or two cases, did not match. In other words, misperceptions of certain phrases or even sentences in dictation did not have their counterparts in false answers in listening comprehension. Moreover, the students answered some questions which were closely related to the misperceived sequences in dictation correctly. This confirmed our above-mentioned presumption that in listening comprehension, where the students were primarily interested in getting the message, the role of context is important. In dictation, where the task is to put down every single word, the students were mainly in search for words and did not pay any attention to any kind of context.

CONCLUSION

With respect to different types of context that influence the perception of continuous speech, as well as how and when they influence it, we may conclude that:

- (i) in listening comprehension lexical and semantic contexts can help listeners to catch the meaning of a speech sequence they are exposed to, so that obstacles which "unfamiliar" sounds and words present can often be easily overcome;
- (ii) in dictation the interest of the listeners is mainly to catch individual words, so they focus their attention to individual sounds and words. The influence of lexical and semantic contexts is minimal;

With regard to other factors which influence the perception of speech in non-native speakers of English, we conclude that:

- (i) the phonological differences between the Slovene phonological system and the phonological systems of the three British accents do not interfere. The results neither indicate any cases where the

Slovene phonological system would help in perception of RP, Cockney or Scouse. Although we cannot deny the influence of the mother tongue upon the perception of a foreign language, we, nevertheless, believe that at an advanced level of knowledge the influence of the phonological system of the mother tongue upon the perception of the foreign language is minimal;

(ii) phonemic and phonetic differences among the three British accents can be responsible for some errors in dictation, mainly in the two non-standard accents;

(iii) the general knowledge that people have about the culture, civilization, politics, geography, etc. of the country the language of which they learn, is also important and is often neglected in the evaluation of foreign learners' perception and production skills;

(iv) the experiment proved our initial assumption that speech perception in native speakers differs from that in non-native speakers. In the former case it is a more or less subconscious process, whereas in the latter a considerable amount of effort and work is required from listeners.

REFERENCES

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