

Level: Master 1 (Sciences of the Language)

Teacher: Dr. Betka Rezig Nadia

Section 3: Language Comprehension

The present lesson introduces learners to both visual and auditory perception of language. It highlights the processes involved in language comprehension and helps in giving them a general view on how language acquisition happens.

Introduction:

Language comprehension is one of the most automatic tasks that humans perform. Yet it is also one of the most complex, requiring the simultaneous integration of many different types of information, such as knowledge about letters and their sounds, spelling, grammar, word meanings, and general world knowledge. In addition, general cognitive abilities such as attention monitoring, inferencing, and memory retrieval are used in order to organize this information into a single meaningful representation.

In order to comprehend language in its written and spoken forms, the language perceiver has to:

- ❖ Recognize the signals that reach the brain from ear or from eye or even from fingers in case of Braille that these signals are a language.
- ❖ Recognize that these signals belong to a language that they understand to interpret them as meaning.

Mapping From the Input to the Linguistic System

What is common to both visual and auditory processing is the nature of pre-lexical processing which means the kind of units that need to be identified before words can be accessed. It is noteworthy here that individuals that read frequently, proceed into letter by letter recognition only in uncommon words but in frequently used words, the recognition is made of the whole word shape. In the spoken form, listeners recognize single phonemes or simply sounds before gathering these sounds to form the spoken word.

Special Characteristics of Language Visual Perception

In reading, the recognition is performed in a letter by letter basis, though, the whole word shape is very important with frequently used words. Three main phases can be considered here, first, is the visual analysis that transforms the input into a buffer. Second, a further analysis in the working memory and finally by the integration of analyzed input with the linguistic and cognitive interpretation.

Variability as a Constraint of Language Perception

In writing as well as in reading, variability constitutes a major problem because every individual has his own way to pronounce words according to his origin and culture and also his handwriting which entails different input. Variability can be predictable in some cases in terms of differences in age or gender, social class or educational level.

How does language comprehension happen?

First, Auditory Perception: Language comprehension following a very simplified schema would start with auditory perception and the phonological/phonetic analysis of language-relevant sounds, which would allow individuals to make the distinction between different words (e.g., 'cat' vs. 'rat' vs. 'run').

Second, Syntactic operations: which identify the lexical status and grammatical category of a particular word is The word 'cat' would be classified as a noun, the word 'run' as a verb. The categorical classification of a word would allow the initial construction of syntactic structures, for example, with 'cat' belonging to a noun phrase (NP) and 'run' as belonging to a verb phrase (VP), up to the sentence level (S). If no additional reanalysis or recombination processes are required, semantic aspects and contextual inferences would then be evaluated in order to integrate the overall sentence meaning.

Third, Attention is required: Language comprehension requires the direction of attentional resources to the message of interest, along with the suppression of any interferences arising from distracting sources. Within the clinical domain, subjects with attention-deficit/hyperactivity disorder have been found to display reduced ability to understand a message. Presumably, the ability of rapid attention shifting plays also an important role in speech communication, when a listener has to follow a speaker's topical changes in the course of a dialogue.

Fourth, Revision of the Message Meaning: comprehension routinely involves taking into account relevant information that becomes available after a message-level representation has already been established. In these cases, the initial meaning representation may need to be revised or reshaped. This is common in figurative comprehension, such as the comprehension of metaphors or jokes.

Fifth, the Interference of Existing Information in the Memory

A major part of language comprehension is integrating new information with what is already known or the role that interference from similar representations of words (or phrases or clauses) plays in inefficient memory retrieval. For example, studies showed that when a reader's attention is directed towards a group of 'fixable things' like a closed window, he or she has a more difficult time processing the verb 'fixed' in a sentence like, 'It was the boat that the guy who lived by the sea fixed in two days'. This type of interference occurs when retrieval cues become associated with other similar items in memory. However, interference can also appear in phonology when words that rhyme: 'hat' 'mat', 'sat') or lexical lines (words that have an associated meaning: 'hat' > 'hair', 'wig'). Psycholinguists suggested that *retrieval interference* such as this is challenging language processing, and is one of the main factors affecting comprehension ability.

References:

- Brenan. R et al (2020) Chapter Four - Event-related brain potentials in multilingual language processing: The N's and P's. *Psychology of Learning and Motivation*. Vol 72 p 75-118.
- Warren.P (2013) *Introducing Psycholinguistics : Cambridge Introductions to Language and Linguistics*.