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THE ANALYSIS OF WRITTEN LANGUAGE PERCEPTION

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ABSTRACT

Language perception is an important topic in the study of psycholinguistics, a major way to master human language, and also a necessary access to the understanding of language. In fact, the written language perception is to discuss the process of early visual language while reading. This paper is trying to summarize written language perception from three aspects: recognition of individual letters, recognition of letters in lexical context, and recognition of words.

KEYWORDS

Written language perception, psycholinguistics, recognition.

1. INTRODUCTION

Reading is multifarious and complex process. The written language perception here we are discussing is mainly the process of early visual language while reading. Written language perception involves several levels: features, letters and words. Features refer to the physical traits of constructing letters. For instance, letter K is represented by a vertical line and two slanting lines; letter R is formed by a vertical line, a slanting line and a curved line, etc. Letters are more abstract and are separated from their physical characteristics. For instance, a visual stimulus is represented by letter K, ignoring whether it is printed or written. The recognition of words is more complex than the other two, because we need to take various attributes into consideration, for example, spelling, pronouncing and meaning, etc. This paper summarizes written language perception from three aspects: recognition of individual letters, recognition of letters in lexical context, and recognition of words [1].

2. RECOGNITION OF INDIVIDUAL LETTERS

Features play a certain role in the process of recognition of letters. A researcher required participants find out the letter Z from two groups of letters [2]. One group shared similar features with letter Z, and the other group didn't. The findings showed that the time that the participants spent to detect letter Z in the group of letters sharing features with letter Z was shorter than in the other group. It demonstrates that it is much easier to distinguish the target letter from the other letters in an arrangement of letters which possess their own characteristics, and thus easier to find out the target letter. Another experiment with tachistoscope, which is a device that displays an image for a specific amount of time, also proved the role of features in the recognition of individual letters. Tachistoscope is a commonly used instrument to study the recognition of individual letters, and it is also an instrument to show the visual stimuli quickly. A typical operation of the experiment is to ask the participants to report what they have seen after the visual stimuli had appeared for fifty or less than fifty mini-seconds [1]. participants are particularly easy to confuse letters with similar features, for example, letter E and letter F [3]. Although these individual letters can be quickly recognized, as the experiment also showed, what can be retrieved is only part of, not all of the features.

From what have been mentioned, we can know that letters are recognized by their formation of features. Although researchers have achieved many conforming development surrounding this hypothesis, the key evidence is

still lacking. Recent experiment which adopts psycho-physical technology provides persuading evidence that letters are actually recognized through their forming features [4].

3. RECOGNITION OF LETTERS IN LEXICAL CONTEXT

Recognition of letters in lexical context involves a very important concept, that is, word-superiority effect. A researchers first provided clear evidence for the happening of word-superiority effect [5]. He used the tachistoscope to show participants the word "word", non-word "owrd", letter D or letter K, and then asked them to report whether the letter in the last position was letter D or K. Reicher found that the recognition of letters in lexical context was extremely more precise than that in individual letters or non-lexical context. A researcher in his experiment further proved that lexical context was being influencing our perception [6]. He found that participants were easier to find out words than non-words. For instance, participants were especially easy to target the letter "t" in the word "the" or other words with high frequency.

In addition, some scholars checked the experiment with Chinese characters. A study carried out an experiment similar to Reicher's [7]. He quickly showed participants correct Chinese characters, wrong Chinese characters, and non-characters, and required them recognize the target radicals or structural parts by which characters are arranged in traditional Chinese dictionaries. Hoosain found that the recognition of radicals in correct Chinese characters were superior to that in wrong Chinese characters, which were still superior to non-characters. It is similar to the above-mentioned word-superiority effect. Some researcher carried out relevant studies to Chinese characters, and he thought that what mattered was not the individual stroke, but the stroke-patterns in the process of recognition of Chinese characters [8]. The speed for us to recognize the Chinese characters are influenced by the number of stroke-patterns. Recognizing the difference of Chinese characters is influenced by the number of different parts of these characters, not by the number of the strokes. Additionally, the evidence he provided shows that the recognition of stroke-patterns in correct Chinese characters is superior to that in wrong Chinese characters or non-characters.

We can also put it into this way that in whichever language we can believe that lexical context has a certain effect on the recognition of the target, and the word-superiority effect plays an irreplaceable role.

4. RECOGNITION OF WORDS IN THE SYNTACTIC CONTEXT

Just as the influence of lexical context to letters, the syntactic context will also have a certain effect on the recognition of words. Some researchers proved the syntactic context effect in recognition of words with experiment for the first time [9]. Other study applied an experiment similar to the paradigms carried out by Schuberth & Eimas [9,10]. The findings showed that the syntactic context facilitating effect happened only when the target word was highly in line with the sentence. For instance, in the blank of the sentence "She cleaned the dirt from her _", the most likely word to fill in the blank might be "shoes", and "hand" follows, while the most unlikely word might be "term", and such unusual words. Thus, we know that appropriate context will facilitate the recognition of those highly predictable and proper words and suppress those irrelevant words. In another study also found that contextual effect plays an important role in those decontextualized and unrecognizable words [11,12].

5. CONCLUSION

Through the integration of the analysis of written language perception, we find that it is non-negligible to understand language perception from the study of written languages, because proficient language perception is facilitating our understanding of language. However, it is insufficient to study language perception solely from the aspect of written language, because it cannot fully and precisely conclude the language perception. If later scholars can associate language perception with other micro aspects (e.g.: speech perception) to supplement the present study, we believe that our study of the recognition of written language perception will provide us with a new sight.

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