

Cognitive Psychology Research on Second Language Acquisition and Foreign Language Teaching Based on Individual Differences

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Abstract: In the process of foreign language learning, different cognitive styles of learners will affect the effect of foreign language learning. With the development of economic globalization, people have more and more opportunities to use foreign languages in their daily work and life. The study of second language acquisition can start with psycholinguistics and cognitive linguistics. The research results of cognitive psychology and language acquisition have inspired foreign language teaching and provided theoretical basis and testing standards for foreign language teaching. Under the guidance of cognitive learning theory, foreign language teaching promotes teachers to study the internal psychological process of learning a foreign language, which is conducive to the cultivation of creative thinking of learning subjects and their ability to consciously use excellent strategies for self-study. Based on the theory of cognitive psychology, this paper discusses the relationship between cognitive style and foreign language learning, from which we can get some enlightenment related to foreign language teaching and its role in foreign language learning.

1. Introduction

In practical teaching, the relationship and influence between individual differences of learners and second language acquisition and foreign language teaching have been widely concerned. With the development of economic globalization, people have more and more opportunities to use foreign languages in their daily work and life [1]. In the process of using foreign language communication, writing ability becomes a necessary basic skill, which is a comprehensive reflection of students' cognitive ability, thinking ability and foreign language application ability. Contemporary cognitive psychology uses the viewpoint of information processing to study the cognitive process of human beings, including the neural basis of perception and cognition, the representation of information in mind, the development of professional experience and knowledge, language structure and language understanding [2]. Second language acquisition research is gradually developed on the basis of children's mother tongue acquisition research. The difference between it and mother tongue acquisition is that second language acquisition is carried out under the premise that the mother tongue system has been mastered, and in most cases it is carried out in an environment separated from the target language society [3]. The process of foreign language learning is a complex psychological process of organizing and reorganizing cognitive structures, such as mastering language knowledge and skills, internalizing language knowledge and skills, and achieving the effect of automatically outputting language [4]. The application of cognitive psychology theory to foreign language teaching needs to deal with the relationship between these principles and foreign language teaching.

In applying cognitive psychology theory to foreign language teaching, we must pay attention to studying the cognitive process of learning subjects and studying how they process, maintain and use foreign language information. Cognitive psychology is an important school of research in contemporary psychology, which explains and explains how people process information during cognitive activities. Cognitive psychology as the theoretical basis of cognitive methods will undoubtedly establish foreign language teaching methods on a more scientific basis [5]. The more vocabulary a student has, the stronger their ability to use the language. The size of a student's vocabulary usually reflects their level of foreign language. The learning process is the process of organization and reorganization, change, and development of cognitive structure [6]. Cognitive

psychology has rapidly changed the face of psychology with new theoretical viewpoints and rich experimental results, and has gradually formed a new branch of psychology, while promoting the development of related disciplines such as cognitive linguistics [7]. This article expounds the connection and influence of individual differences and second language acquisition, and explores the relationship between cognitive style and foreign language learning based on related theories of cognitive psychology, and draws some relevant enlightenments related to foreign language teaching and its learning in foreign languages Role.

2. The Relationship between Individual Differences of Learners and Second Language Acquisition

According to the principle of cognitive psychology, the processing of sensory information is not only data-driven, but also more concept driven. Cognition is the brain activity that learners rely on to acquire knowledge and concepts. Cognitive process is the process that learners acquire, store, process, use and create information. In the process of writing, the writer uses lexical chunks, whose efforts are much smaller than the sentences he generates according to the syntactic structure and lexical usage. This is helpful to solve the problems of poor vocabulary, improper use of vocabulary, inconformity with language and cultural habits. There is a innate mechanism of language acquisition, in which there is a common core of language. This is a potential and hidden highly abstract rule system. From the perspective of foreign language teaching, the obvious trend of contemporary teaching psychology research is based on the theory and method of cognitive psychology. It is very important for teachers to provide students with necessary external support in writing teaching, so as to reduce students' working memory burden in basic skills. When teaching vocabulary, teachers should pay attention to not only teaching students the definition of vocabulary, i.e. shallow knowledge, but also teaching context, i.e. deep knowledge.

Cognitive psychology holds that students' knowledge background plays an important role in their short-term memory. Teachers can guide students to compare homographs, homographs, homographs, synonyms, antonyms. Cognitive theory holds that language learning is not a process of mere imitation and memory, but a process in which learners store and organize various materials, acquire knowledge and form knowledge structures through cognitive processes. For example, from the first foreign language class for freshmen, all foreign languages will be used for teaching. Use words from few to many, sentences from short to long, speed from slow to fast, meaning from simple to complex, and use images, images and body language appropriately, step by step. The flexibility and richness of foreign language vocabulary make most students at a loss when facing numerous and complicated language phenomena, the effect of memorizing words is not good, and the vocabulary when writing is poor, which often makes them lack confidence in their own learning. Cognitive psychology emphasizes that this process is purposeful and carried out in a certain psychological structure according to certain strategies. People with field-independent cognitive style tend to make more use of internal reference as the basis for information processing in cognitive activities [8]. It is human nature for human beings to learn any knowledge in an attempt to find order and seek laws in the things they come into contact with. Learning a foreign language is the same as learning any other knowledge. The whole process is a process of discovering rules, seeking rules and reorganizing the original rules system.

3. The Influence of Cognitive Psychology on Second Language Research

It is a branch of linguistics to study the structure and function of human language mechanism from the corresponding relation between psychological process and language activity. Every learner will consciously or unconsciously mobilize his original knowledge and cognitive strategies when trying to complete a certain learning and cognitive task. Practice correct pronunciation and read out correct words, stress and intonation, which is especially important for beginners to lay a good foundation for language learning. Reading aloud with correct pronunciation and intonation is helpful for improving listening, reading comprehension and cultivating language sense. Personality

characteristics and second language acquisition personality refer to relatively stable and core personality psychological characteristics expressed in people's attitude towards reality and corresponding behavior patterns, which are the most closely related personality characteristics to society. Outgoing people are confident, self-reliant, active, sociable, lively and cheerful, actively contact with others, have more opportunities to participate in language practice, and have strong listening, speaking and imitating abilities. Introverted learners are good at using their calm character to analyze the limited losers deeply and carefully, and pay more attention to the thinking of language form and language rules.

Cognitive structure directly participates in the interaction with new knowledge. It not only determines whether new learning can be generated, but also determines the maintenance of new knowledge and its transfer in new situations. In foreign language teaching, it should be considered that the same teaching method has different teaching effects for different students. Teachers must understand the differences in students' cognitive styles so as to choose different teaching methods according to different types of cognitive styles. That is, teaching students according to their aptitude. Cognitive structure directly participates in the interaction with new knowledge. It not only determines whether new learning can be generated, but also determines the maintenance of new knowledge and its transfer in new situations. We compared the number of effective words in the compositions of the experimental class and the control class before and after the experiment. The data are shown in Tables 1 and 2.

Table 1 Comparison of Effective Word Counts Before Writing in Experimental and Control Classes

Class	Average score	Highest score
Experimental class	62.1	123
Control class	61.7	122

Table 2 Comparison of Effective Word Counts in Experimental and Control Classes

Class	Average score	Highest score
Experimental class	71.3	139
Control class	63.4	125

Teachers can change the example sentences provided by teachers to those provided by students, and teachers can judge whether the example sentences are correct or incorrect. Turn the teacher's explanation rules into the language rules that students discover and summarize. Writing is a very effective way to use vocabulary. Teachers can train students' writing ability in a planned way, such as giving students some key words at the beginning so that students can write a coherent passage with these words. Then let the students play freely and rewrite the text according to their own ideas. Teachers should, according to the requirements of writing teaching, purposefully and systematically arrange writing training for students with different difficulties and strong pertinence [9]. Teachers can find problems in autonomous learning according to their writing level, find out the answers to the problems through mutual discussion, and establish learning objectives. Students' learning is meaningful acceptance learning. The acquisition of new knowledge mainly depends on the original proper concepts in the cognitive structure, the interaction between new and old knowledge, and the assimilation of new knowledge into the original cognitive structure [10]. The open writing training is based on the restricted and semi-restricted writing training. To the extent that the students have accumulated a certain number of quantifiers, the teachers let the students make their own words and sentences and complete the process of written expression. It is an advanced stage of students' writing training and tests students' ability to use lexical chunks in writing.

4. Conclusion

In order to improve learners' language ability, we should not only select appropriate teaching materials according to students' reality, but also attach importance to students' ability of construction and practical application to provide more opportunities for students to learn and use foreign languages. The different cognitive styles of learners determine the different learning methods and strategies they use in the learning process. As a foreign language teacher, when

teaching different learners, one must have a comprehensive and in-depth understanding of the objects being taught, so that teachers can have a better say. As a foreign language teacher, when teaching different learners, it is necessary to have a comprehensive and in-depth understanding of the object being taught, so that the teacher has more say. In foreign language teaching, we should consider that the same teaching method has different teaching effects on different students. The integration of the teaching materials according to different learners' cognitive styles can improve learners' interest and learning efficiency. The ability to master and use a language is acquired through the learning process. Therefore, foreign language teachers must study foreign language teaching from the perspective of cognitive psychology in order to further improve the level of foreign language teaching.

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