



Cognitive Transfer and English writing

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Abstract

The author examines the cognitive learning theory and cognitive transfer in English writing, tries to find out how it relates to English writing, and how it influences English writing.

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From the learner's preparation to the completion of English writing a series of mental activities are involved: logical thinking, reasoning and deduction. Learners need to conceive the ideas, choose the appropriate words and material to construct the paragraphs, complete the sentences in logical order, use certain writing techniques and do the revisions, etc. So the English writing process is actually a cognitive process. Then in order to know much about Chinese influence on English writing process the author examined cognitive theory.

1. Cognitive learning theory

Cognition is a psychological term. It refers to the action or process of acquiring knowledge by reasoning or by intuition or through senses. Cognitive psychology mainly studies the nature of knowledge, the way of obtaining knowledge and how to apply it. So it focuses on active role of human cognitive organism (sense, understanding, and logical thinking) in acquiring knowledge. Cognitive psychologists applied this theory to second language and foreign language teaching and learning.

In the late 1960s the linguistic research began to move into the essence of language: the deepest level of language. Linguists began to find one manifestation of general developments, one aspect of cognitive ability to deal with the world and with self. These beliefs are found theoretical basis from Lois Bloom's research, along with that of Jean Piaget. Their research centers on the cognitive prerequisites of linguistic behavior. Piaget viewed that the overall development was the result of child's interaction with his environment, with a complementary interaction between the child's developing perceptual cognitive capacities and his linguistic experience. Bloom noted that an explanation of language development depended upon an explanation of the cognitive underpinnings of language: what children know will determine what they learn about the code for both speaking and understanding message. As to the second language research the cognitive psychologist David Ausubel (1964) warned against the trends of drawing direct global analogies between first and second language acquisition. He warned that adults learning a foreign language could, with their full cognitive capacities, benefit from deductive presentations of grammar, that the native language of the learner was not just an interfering factor—it could facilitate learning a second language, that the written form of the language could be beneficial, that students could be overwhelmed by language spoken at its 'natural speed' and that they, like children, could benefit from more deliberate speech from the teacher.

The famous Swedish cognitive psychologist Piaget believed there were two different organizational functions. One was functional invariant, which was an unchangeable inherited psychological function. It determined how human interacted with environment and society and learned from them. This function worked both for child discovering environment and for scientists discovering the world. Another function was cognitive structures or cognitive schemata, which was the result of functional invariant interacting with environment. The objective existence was the production of human learning from environment. In what form it appears was determined by the former organizational function, or the features of learning environment.

2. Application of cognitive theory to second language (L2) transfer

Cognitive theory provides a new perspective for language transfer research. It broadens the research field. Transfer of learning method began to be investigated. Chelala first found the transfer of second language writing method. She found many analogical performances when students wrote both in mother tongue and in English. They made a simple draft before writing in both languages, and paid more attention to language coherence. When they revised it they mainly focused on the substantial in content. Later a series of researches on L2 writing all proved the L2 writing method was

greatly influenced by their first language (Jones & Tetroe, 1987; Edelsky, 1982). So the similarities of technique used in L2 writing illustrated the positive transfer of first language.

From the stage of conception to the stage of embodying writing style L2 writers always apply their corresponding first language writing technique to help their L2 writing. Even in the process of L2 composition revision first language influences can be found. Hall (1990) analyzed four L2 learners revision both to their first language compositions and to their English compositions. He found the analogical revision to the two compositions written in first language and their L2 (table 1). And the writer of this article also observed four Chinese students revising their Chinese composition and English composition. I found they both made outline and draft for their Chinese composition and after the revision was made they also read it over to make sure the sentence was coherent and the word flow was smooth, etc.

Apart from this, researches on L2 transfer try to interpret the cognitive processing of First language effect on L2 production. Guo Chunjie, Liu fang (1997) analyzed twelve Chinese students (ten middle school students, two college students) L2 picture writing by using thinking-aloud. According to the data analysis Chinese involvement in English production is great (55%). 92% of students make response to the picture by thinking in Chinese. The greatest influence of First language on L2 production is not in its external form—first language transfer, but in the highest stage of cognitive processing such as the logical judgment, analysis and deduction (Guo, Liu, 1997). There is deeper level of Chinese influence on English—that is Chinese involvement. Chinese transfer is its primary form, whereas the cognitive process is the higher stage of Chinese involvement. That is to say, it is the English writer's psychological response to Chinese transfer, the dynamic process of English output. Later Wen Quifang and Guo Chunjie summarized the five functions of Chinese in English writing: transformation, confirmation, generating ideas, retrieving L2 forms and controlling the writing procedures. They also studied the relationship between Chinese thinking and the scores of students' composition and found that those who scored high less depended on Chinese for their thinking. Feng Guoxin (2001) analyzed the function of Chinese involvement in the process of English output and concluded that Chinese involvement made the English writer form the habit of mental translation. That is, English learners first obtain or form concept in Chinese, and then express it in English. English learners cannot think automatically in English, which is derived from the fact that the Chinese has a closer relation to concept than to English. And the research further proved that most English writer's target language psycho-vocabulary could not meet the demand of English writer in writing. So the English writer should actively build up his psycho-vocabulary so as to improve one's ability of expressing his mind in English, try to form concept in English and slowly reduce mental translation.

When L2 writers write composition they naturally expect to draw words from mind the topic-related phrases. He will choose the contextual words to form a sentence or a whole piece, and these words are just the psycho-vocabulary mentioned above. If the L2 writer did not fully grasp such vocabulary and was forced to express himself in English he had to turn to his mother tongue so the error may result.

Zhang Guorong (2002) compared the cognitive process of Chinese writing with English writing he found the highest degree of active work of subjects. The subject processes information while writing. There are two types information processing: surface processing and deep processing. The higher degree of the subject's proficiency level the more dominated the deep processing. Language information processing is supported by subject's language background system. Usually the mother tongue language background system is complete while the target language background system is insufficient and sometimes vacant. This insufficiency or vacancy may result in subject's borrowing of or relying on mother tongue language background system. In the English writing process the subject may use the two-language background system interchangeably. Chinese writer is only influenced by one language background system while English writer is influenced by both systems. If the two systems can be used interchangeably positive transfer may appear, and vice versa. Zhang (2002) also found the coding and decoding systems of two languages are essentially different. English writer does not only use target language to code and decode language information he also switches frequently from native to target language coding and decoding systems, so it might take one more time and effort to write in L2. Obviously, it is quite rewarding to investigate the cognitive processing of language output because it is one important channel to deal with the transfer problem in writing.

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Table 1

Changes	L1	Percentage of total	L2
Word	62%		59%
Phrase	29%		26%
Information	52%		51%
Grammar	38%		42%