**Paper Presentation**

## 14. Educational Psychology and Chinese Language Learning

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# Introduction

Educational Psychology has been defined as the study of learners, learning and teaching (Slavin, 1997, p.3).Some of the most fundamental concepts found within this discipline are those stemming from cognitive theories of learning. These concepts also inform basic instructional approaches to formal/organized learning activities in educational settings at different levels. Much research has been devoted to the psychology of language learning, including the learning of a second and/or foreign language. There are important cognitive considerations in this type of language learning (ref. DeKeyser & Juffs, 2005), such as ***sources of language learning knowledge*** (e.g., universal grammar, the role of first language), ***explicit learning***, ***implicit learning***, and ***individual differences*** (e.g., aptitude, age, working memory).In addition cognitive considerations, there are other essential dimensions of learning that come into play when a second/foreign language, such as Chinese, is being acquired.

I obtained my Ph.D. in Educational Psychology in 1995.An important reason for pursuing this degree was my interest in the learning/teaching process as it relates to foreign languages. I have been an avid language learner myself from a young age, and so my graduate training naturally gravitated toward those dimensions of Educational Psychology that had most to do with language learning processes. These came mostly under the rubric of various focal points within the discipline, including ***sociolinguistics*** (McKay, 2005), ***language socialization*** (Zuengler & Cole, 2005), and ***sociocultural language learning*** (Lantolf, 2005).

Over the years, I have had the opportunity to teach language courses in several target languages: English, French, Spanish, Japanese, and Mandarin Chinese. Of course, there are significant linguistic differences between these languages, as well as the methods utilized to teach the languages in the

classroom. Nevertheless, there are also some important points of commonality, to which Educational Psychology applies. Through my graduate training in Educational Psychology, I have been able to make useful adaptations to my instructional methods to teach Chinese as a Foreign Language, which I believe have increased my overall effectiveness in the classroom. That is to say, the basic training I received as a graduate student has allowed me to apply certain 'constant elements' found in Educational Psychology to my teaching activity. This paper describes some of these constants and the way I employ them in teaching the introductory level course in Mandarin Chinese at Saint Mary's University. The main text used for this course is the ***New Practical Chinese Reader***, along with the Workbook and accompanying audio material.

### The Cognitive Approach to Language Learning

A very large body of research in Educational Psychology has to do with how the mind processes information, with a focus on memory, both short-term (working memory) and long-term.

## Working Memory

According to research in the discipline, a major factor in enhancing the working memory of individuals is ***background knowledge***. For this reason, one of the first things I do in my language class is giving students a chance to provide me with background information. This is usually done in the form of a short bio written by each student, with the understanding that any information provided me is to be used strictly to make the course more personally relevant to every participant. The data obtained from the bios serve me throughout the course, as I try to introduce material and ideas in ways that relate to my students' background knowledge in a significant way. In this way, the focus of the Mandarin Chinese course is on the individual learner and, accordingly, my finding ways to activate more effectively his/her prior knowledge during the learning process.

Researchers have also confirmed that the more a learner knows about something, the better that person is to organize and absorb information (Chi & Ceci, 1987; Engle, Nations, & Cantor, 1990; Kuhara-Kojima & Hatano, 1991).Thus, in my class I do my best to find ways to link new learning to a learner's existing background knowledge.

Research further indicates that learners differ in their abilities to organize information. Regardless of these differences, each and every learner can be taught to consciously use strategies to make more efficient use of his/her

***working memory capacity*** (DeKeyser & Juffs, 2005; Levin & Levin, 1990; Peverly, 1991, Pressley & Harris, 1990).For this purpose, some of the strategies that I share with my students include ***imagery***, (keyword) ***mnemonics***, and ***hierarchies of knowledge***.

For example, in my class I often make use of imagery to create stories that weave together information as part of a basic vocabulary list (ref. Egan, 1989): an arbitrary list of pictograms for 'man', 'dog', 'buy', 'eat', and 'store' can be easily woven into a mini-story, facilitating the process of committing the vocabulary to memory (e.g. "the man goes to the store to buy food for his dog").Even if the students are missing some of the pictograms to write a complete sentence in Chinese, I encourage them to write all those that they know. Gradually, the gaps in vocabulary are filled as the course progresses.

A second basic strategy to enhance working memory capacity stems from ***schema theory***, which postulates that information that fits into an existing schema (i.e., mentally organized networks of connected ideas or relationships) is more easily understood, retained, and recalled than information that does not fit into an existing schema (Anderson & Bower, 1983).Additional research conducted by Durso and Coggins (1991) showed that ***hierarchical organization*** of the learning material, in which specific ideas/topics are grouped under more general topics, are particularly helpful to augment student understanding. Consequently, in my class I make regular use of ***schemata*** derived from the radicals of Chinese pictograms (e.g., 'human', 'animal', 'wood', 'metal', etc).I introduce these basic radicals at the very beginning of the course, and quickly expand upon them during the following lessons.

In conjunction with the relatively early introduction of radicals, I give my students a series of exercises that involve different combinations of elements that form various pictograms. Again, the key is to give these exercises to the students at a relatively early stage so as to induce them to access and develop schemata of Chinese pictograms organized in ***hierarchies of knowledge***. Alexander's (1992) research clearly indicates this principle: meaningful learning requires active involvement of the learner, and what he/she learns from any experience depends largely on the schema applied.

In order to further enhance the students' ability to access hierarchies of learning, I also encourage them to develop their ***metagognitive skills*** as they begin using Chinese pictograms. This essentially involves making students aware of common elements in a given learning task (e.g., reading comprehension, vocabulary usage, etc.) by asking themselves questions about these common elements (Pressley, Harris, & Marks, 1992).To facilitate this process, the students are quickly provided with the 'necessary equipment' to formulate questions in Chinese, that is, *who*, *what*, *where* and *how*.

# Long-Term Memory

Prominent educational psychologists (e.g., Ericsson & Kintsch, 1995) believe that learners store more than information in long-term memory; they also store learning strategies for easier access, that is, ***long-term working memory***. Keeping this concept in mind, I usually begin my lessons with ***key questions***, even before I introduce the instructional material specific to that day. This is done to encourage students to assess their own understanding of what the text is aiming to teach. I also integrate different ***conceptual models*** that aim to show the students how elements of the language relate to each other, either in grammatical or lexical terms.

Some theorists have further divided long-term memory into at least three parts: ***episodic memory***, ***semantic memory***, and ***procedural memory*** (Tulving, 1985).Such being the case, I have tried to include learning activities in my course that aim to facilitate the retention of information along these delineations of long-term memory. For instance, in order to stimulate the episodic memory of my students, I find ways to create explicitly '***memorable events***' in the classroom. This involves the consistent use of visual images and/or auditory input (Martin, 1993; Slavin, 1997).Thus I make extensive use of pictures to illustrate key learning concepts found in the text (which has very few images).I have discovered that this obvious instructional approach helps students remember more easily information contained within the text. I also make regular use of other visual material throughout my lessons: vocabulary cards with pictures of objects; the actual objects themselves; images downloaded from the Internet; video clips; and sections of Chinese movies. Most important of all, these visual cues are not merely introduced to students in a passive way, they are encouraged to relate these cues to prior knowledge and utilize them actively for realistic communication. Again, this puts emphasis on the students' ability to form accurate schemata and to access their metacognitive skills.

## Factors that Enhance Long-Term Memory

Research findings indicate that instructional strategies that promotes direct ***student involvement*** in a lesson contributes significantly to the student's long-term retention of that lesson (MacKenzie & White, 1982).In this regard, the principle of ***connectionism*** (Rumelhart & McClelland, 1986) is highly relevant, for it postulates that knowledge is stored in the brain as a ***network of connections***. The implication of this principle in the language classroom is that greater emphasis has to be placed on ***experience-based teaching*** (and a de-emphasis on ***rule-based teaching***).Consequently, I try to maximize active

student involvement in my class, be it in the form of role-playing, simulated situations (e.g. speaking on the telephone, buying at the market, asking for directions), problem solving, show and tell, etc. The focus is always on engaging students in 'meaningful learning' – the kind of learning that requires active involvement, facilitating the accessing of prior experiences and knowledge, the understanding of linguistic principles, and the incorporating of new information into a usable frame of ***cognitive constructions*** (Alexander, 1992).

## The Constructivist Approach to Language Learning

The basic premise of this approach is that learners must individually discover and transform information and make it their own (Steffe & Gale, 1995).This approach is also known as ***student-centered instruction***. Here, emphasis is placed on the ***social nature*** of learning. This can be generally achieved in the classroom by organizing ***mixed-ability learning groups***. The learning process that goes on in such groups promotes important conceptual change in the students. Other classroom activities that facilitate this process include ***cooperative learning*** and discovery through ***cognitive apprenticeship*** (Gardner, 1991).The latter learning activity accentuates a process by which a learner gradually acquires expertise in interaction with someone seen as 'expert' (i.e., the teacher, teacher assistant, or a more advanced peer).

Another important dimension of constructivist thought is ***situated learning***: the use of real-life, authentic tasks in the classroom to augment learning through the accomplishment of more complex, realistic tasks (Prawat, 1992; Slavin, 1997).As researchers suggest, as new information is being absorbed by the students the teacher should provide guidance along the way, *but* the teacher should also allow the learner to work out or discover the basic skills required behind that new information. This can be often accomplished by inserting more problem-solving tasks into a lesson. Not only should the students be given more problems to solve, ideally the problems should be relatively more complex, or 'thought provoking'.

***Generative learning*** is another central assumption of constructivist approaches to teaching. This concept describes how learners are encouraged to perform mental operations with new information as to make it their own. For example, this can be accomplished by accessing useful ***question-generation strategies*** (discussed earlier in this paper) in combination with ***cooperative learning***. As I make the conscious effort to bring these concepts 'to life' in my classroom, I design learning tasks in such a way that requires more than simple, direct answers from the students; they have to use their own powers of deduction, their prior knowledge, or recall episodic learning experiences to

bring the task to successful completion. For example, I many assign some kind of information-completion task' that will oblige the students to seek information from other classmates before they are able to complete that task. I also use many 'fill-in-the-blank' stories that induce students to 'individualize' the content.

A final concept that plays an integral part of the constructionist learning process is ***discovery learning***. Students are encouraged to learn a task on their own through active involvement with concepts and principles. This is accentuated by such exercises as matching definitions to words, mapping of key geographical points in China, matching sounds to pictograms, playing 'ten questions,' guessing word usage through context, etc.

# CONCLUSION

The language-learning classroom is one where a great deal of information processing is going on. As an educator that became involved in language instruction at an early stage in my professional development, I became intrigued about 'what is going on in the learner's head.' Educational psychology has been able to offer crucial insight into that learning process. There are many outstanding researchers in the world of educational psychology that made important contributions to help us better understand some fundamental mental factors that relate to learning, and, even more valuable, providing instructional tools to facilitate that learning in and out of the classroom. This paper presented an overview of some of these keys concepts as they relate to the teaching of Mandarin Chinese. There are many linguistic features of Chinese that require specific pedagogical approaches to the effective teaching of that language. However, there also are underlying principles that describe general tendencies in the human learning process, including (foreign) language acquisition, that are useful in making learning Chinese as a foreign language a more enjoyable experience for students, and, most important, in enabling the instructor to offer a more effective course.

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