

## **The Role of Working Memory in Explicit-Inductive SLA**

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This study examines the correlation between working memory (WM) capacity and the acquisition of a grammatical particle among native English speakers learning Chinese, hypothesizing that if there is a positive correlation between the two, then those with a higher WM capacity will be able to acquire a second language with greater ease.

It has been suggested that because of the capacity involved in WM to manipulate and create new linguistic representations, “people who have better working memory capacities can learn an L2 more efficiently” (Baddeley 2003, Ortega 2009). Though there have been several studies that examine the relationship between WM and grammatical competence (Medina, 2009; Saggara, 2000; Winke, 2005), there have been mixed results as to whether or not there is a definitive correlation between them.

Some studies stress the fact that though we have yet to know what second language (L2) learner’s second language acquisition (SLA) aptitude specifically consists of, they speculate “Working memory for language may be one (if not the) central component of this language aptitude.” (Miyake and Friedman, 1998).

Rather than adding directly to the existing functional model of WM provided by Baddeley (2003, 2007), this project attempts to better characterize the relationship between a popular language learning software suite like Rosetta Stone and its Explicit-inductive (Dekeyser, 2001) methodology with WM capacity in the acquisition of Chinese as an L2. Testing of participants is currently underway, including exposure to the lesson, which uses a series of picture text and sounds, all in the target language to teach grammatical structures and vocabulary L2 in a game-like way, followed by a short evaluation on how well the participant acquired the L2 content. To evaluate the participants WM capacity, participants will also take the Raven’s Progressive Matrices intelligence test, intended to better understand the construct of WM, since in previous studies this capacity has been related to fluid intelligence (Logie, 2011)

The data collected attempts to establish whether performance in a test of the use of the particle “zai” in Chinese is correlated with WM capacity, and at the same time, whether the success shares variance with a fluid intelligence measure like the Raven’s Advanced Progressive Matrices test. If this is so, then, as predicted in the literature, the data collected should show that participants with a higher WM capacity will perform better on a test of the newly acquired grammatical particle. The project will examine the data acquired from these tests to further explore what relationships exist between the Explicit-inductive methodology of and individual cognitive differences such as WM capacity and intelligence.

Understanding more about the acquisition of Chinese as an L2 through software packages may also allow us to improve upon classroom teaching strategies and teaching methodologies for distance learning paradigms. The conclusions drawn from analyzing WM and its relationship with language learning in the context of the RS software may provide insight for further studies as to the much larger question every researcher in SLA would like to know: what facilitates the acquisition of a second language?