

## ABSTRACTS

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**Research project title: Applying Cognitive Load Theory to Chinese Language teaching and with a focus on improving Instructional Design for non-Chinese background beginners**

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Chinese written characters are represented by three main visible and hidden messages: a structural shape, its sound-and-tone(s) and semantic meaning. An average character has 8-9 strokes. To be able to read a Chinese newspaper or short novel, the learner must remember 2500-3000 characters. It is the biggest obstacle to learners who are from an alphabetic writing system background to achieve better learning outcomes.

Orton (2016) has estimated that the current number of proficient adult speakers of Chinese in Australia of non-Chinese background is 130 at most, and half of those are already over 55 years of age.

There is a very high drop-out rate among students studying Chinese in Australian schools. Obstacles and disincentives discourage non-Chinese students from taking up or persevering with Chinese as a second language, to the point where only 5 percent of those who enrol in Chinese at secondary school continue to year 12. Last year, there were 400 year-12 students of Chinese as a second language – 20 per cent fewer than in 2008.

The aim of the current work is to use Cognitive Load Theory to reduce the difficulty foreign language students have in learning to read Chinese. The Isolated Elements Effect of Cognitive Load Theory will be used to develop new character teaching strategies.

There have been many studies in the field of mathematics, geometry, electrical engineering, medical and accounting, that the learning materials can be broken down into some simpler, non-interactive elements to be learnt prior presenting the complex interactions of these elements. (Kalyuga 2011) The isolated-elements effect strategy can reduce the intrinsic load at an early stage for novices helps developing partial schemas held in their long term memory. (Sweller, Ayres, & Kalyga, 2011)

My research hypothesis is that learners can firstly learn a range (around 100) of simpler (2-5 strokes) individual characters or components (radicals). After they have stored those simpler parts in their long-term memory, the parts are ready to be used in building the characters as 85% of characters consist of only two parts with the rest of them have three or more parts formed by those simpler characters and components. It is hypothesised that after first learning these 100 components, students can recognise and remember more complicated characters with greater efficiency and accuracy. Using randomised, controlled experiments, this isolated elements technique will be compared with the conventional technique currently used of attempting to teach learners entire characters without first teaching the components.