

## **Development of Cognitive Training Game to Enhance Cognitive Process of Children with Learning Difficulty**

### **ABSTRACT**

This paper discusses the development of cognitive training games based on meta-cognitive technique and to aid in enhancing cognitive processes among children with a learning difficulty (especially having problems paying attention and responding to stimuli accurately). The study was conducted on four (4) primary school students in the Bio-neurofeedback laboratory at the Faculty of Psychology and Education, Universiti Malaysia Sabah. The instruments used in this study include a cognitive training game, which consists of Neuro Game: Number and Neuro Game: Location to measure cognitive process and response accuracy to stimuli. The Mind Wave EEG Headsets measure the attention level of participants and computer to display the game and monitor participants' cognitive processes. The effectiveness of the cognitive training game is tested by comparing the mean score of attention and mean score of accuracy response to stimuli of participants at the initial five training sessions and a subsequent five training sessions. The pretest result shows no significant increment in participants' attention score and accurate response to stimuli score from the first five cognitive training sessions to the end of the session. These results are not as expected. However, the cognitive training game is believed to measure and improve children's cognitive process with further improvement with learning difficulty. One of the encouraging findings in the current study is the neuro game designed by the researchers can be used as an inventory to measure individual attention level and accuracy response to stimuli.