



## **SIO Ut Na MPhil Student, Department of Applied Social Studies**

### **Research Title:**

The Effect of Expertise on Creative Problem Solving

### **Research Aims:**

Experts' knowledge activates automatically when solving problem in their respective field. However, the automatically-activated knowledge may induce fixation effect under certain situation. Some studies supported that incubation period (put the unsolved task aside for a while) is effective in resolving fixation effect. This study aims:

1. Examine if expert's knowledge fixates expert's mind on creative problem solving
2. Examine the thinking processes involved during incubation period on resolving fixation effect.

### **Research Hypotheses:**

It was hypothesized that expert's domain-specific knowledge confines expert to search solution within their domain-specific knowledge base when solving creative problems containing irrelevant domain-specific cues, whereas, incubation period can resolve fixation effect by suppressing irrelevant information and increasing sensitivity to relevant information.

### **Research Method:**

A hundred of expert and novice chess players are invited to solve a list of creative tasks (Remote Association Task, RAT) and Lexical Decision Tasks (LDTs), under the incubation or non-incubation condition. Under the non-incubation condition, a set of LDTs followed each RAT. Under the incubation condition, an incubation period was introduced between RAT and the LDTs. Performance difference between experts and novices on RAT was an indicator of the fixation effect induced by experts' knowledge structure. Time difference in performing LDT between the incubation and non-incubation condition was an indicator of the incubation effect.

### **Research Significance:**

This study provides better understanding on the relationship between expertise and creativity, and evidence on the role of incubation period on creative problem solving.