Title	
Author(s)	CHANAKARN KINGKAEW
Citation	
Issue Date	2023-03
Type	Thesis or Dissertation
Text version	ETD
URL	http://hdl.handle.net/10119/18408
Rights	
Description	Supervisor: , ,

Japan Advanced Institute of Science and Technology

Abstract

Experiential Learning (EL) is learning through experience, which consists of four processes of learning. EL views it as an integrated cyclic process in which each stage is supportive of the other. First, Concrete Experience (CE) is the learner involved in the experience and followed by Reflective Observation (RO) is the stage of reflecting on one's experience. Then, Abstract Conceptualization (AC) is the stage of creating a theory to explain the observation. Lastly, Active Experimentation (AE) is the stage to use the idea created and apply it to future changes. However, EL is challenging to learn as the learner must all achieved four abilities: able to actively participate in the experience (CE), able to reflect on the experience (RO), able to possess and use analytical skills to conceptualize the observation (AC), able to use decision making and problem-solving skills to make a strategy to use new ideas gained from experience (AE). This research introduces a learning environment to promote the awareness of the EL process by reflective writing support framework as the primary method for the learner to learn EL. In the beginning, most learners cannot verbalize what they learned through EL well; thus, they use shallow thinking for reflective writing. To solve EL difficulties, we design purposeful learning support functions and their observation. The orientation program is a short lecture to introduce EL concepts and motivate them to learn EL through the framework. The user interface of reflective writing framework design connects four EL processes with input and output that is easy to understand EL concepts' integration. The sentence opener function has dual roles in supporting reflective writing by promoting deep thinking on EL concept understanding and observing the learning behavior is designed. Learners think about using the sentence starters to learn EL concepts from various options to learn keywords and sentence structure and integration of EL concepts. These sentence starters are thinking representation and observable objects as well. The learner thinks more carefully by using the hint role of the sentence openers. We designed the learning sensor role of the sentence openers to track the learning events that the learner interacts with the system. The captured sensing data will be interpreted and explicitly sensed the meta-level thinking process of the learner by the visualization platform. The mentor support function also supports the encouragement, admiration, and feedback sentences to promote and motivate the learner based on their learning model. We examine in two environments 1) twelve weeks internship and 2) the ten-week distance learning experience. The results and discussion show how the design framework of dual usage of implicit thinking support and observation can be generalized to a similar learning environment.

Keywords: Experiential Learning, Knowledge Science, Self-Regulated Learning, Reflective Writing, Metacognition