迴圈式概念圖運用在高中公民與社會科經濟部份對學生的學習影響分析

摘要

概念圖目前在教學中已被廣泛的運用，其中又以自然科為主，社會科的運用相對下少了許多，而大部份也都著重在樹狀式概念圖的研究，較少學者進行迴圈式概念圖的研究。然而傳統樹狀式概念圖在運用上偏向靜態的連結，常止於分類的功能，而迴圈式概念圖重邏輯、思考與推理的特色，正可彌補樹狀式概念圖的不足，公民與社會科經濟部分內容，需要許多模式的建構，學生必須清楚理解變數間的關係，而這正是樹狀式概念圖沒辦法做到的，因此本研究探討迴圈式概念圖在公民與社會科，對於培養學生邏輯推理能力以及高階思考能力的影響。

本研究利用三個高二班級，分別使用講述法、樹狀式概念圖與迴圈式概念圖進行經濟學理論的教學，依照先個人---後團體的步驟，探討個人與小組合作對於繪製概念圖的影響，最後使用學生學習態度問卷、開放式測驗，進行學習成效與態度的評估。

本研究使用迴圈概念圖的組別，在從事強調邏輯思考的知識建構歷程之後，在深度思考、經濟學理論學習的成效，以及學習動機等方面的表現優於樹狀式概念圖與講述法的小組。本研究期望對於運用迴圈式概念圖提升高中公民與社會科經濟部分教學成效，以提升學生學習思考層次等方面的效益，能提供進一步的了解。

【關鍵字】 概念圖；概念構圖；公民與社會；系統思考；合作學習。

Analysis of the Effects of Cyclic Concept Map on the Studies of Economics in Civic Education

Abstract

While concept mapping is extensively used in science studies, it is not a common instructional practice in social studies. Compared with studies on hierarchical concept mapping, studies on cyclic concept mapping is rare in the literature. Cyclic concept mapping, emphasizing the presentation of logic and causal relations between concepts, is believed to be a useful tool for facilitating students' critical thinking ability that is crucial in studying civics and social sciences. This research aims at exploring how using cyclic concept mapping as an instructional strategy may influence students' formation of logic reasoning and critical thinking in studying economic theories.

Three classes of 11th graders from north western Taiwan area participated in this study. They were randomly assigned to three experimental conditions: lecture only, hierarchical concept mapping, and cyclic concept mapping. The subject matter is economic theory on inflation cycle. After receiving a lesson on the theory of inflation cycle, the participants completed practice exercises both individually, and latter, collaboratively in group. Questionnaires and performance assessments were

administered afterward to investigate the participants' motivation levels and performance of learning.

The findings show that the cyclic concept mapping group performed better than the other two groups in deep thinking, learning assessments, and learning motivation. This study provides empirical data to further our understandings in the effects of cyclic concept mapping in promoting learning effectiveness and students' thinking.

Keywords : concept map, concept mapping, civics and society, system thinking, cooperative learning