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應用改良式概念圖課程體建構適性化之數位學習推薦系統
Application of Progressive Concept Courseware to Construct the Adaptive Recommendation E-Learning System

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中文摘要

概念圖在 1972 年由 Novak 提出，主要的目的是為了幫助學習者對知識的瞭解產生完整架構，而在數位化知識的時代，Novak 概念圖在數位學習上的展現產生了一些缺點與不足，並且少有配合數位學習來改善 Novak 概念圖之相關研究。因此，本研究根據電腦網路超連結的特性，並利用改良式概念圖加深、加廣學習的特性來設計數位學習課程體，以彌補 Novak 概念圖在數位學習上的不足，並且改善傳統數位學習讓所有學習者學習同樣教材的缺點，進而達到因材施教的目標。本研究主要目的有兩個：一、以 Novak 概念圖與改良式概念圖分別建置兩種數位學習課程體，再將之整合至數位學習系統中。並且藉由實驗教學來探討 Novak 概念圖與改良式概念圖的數位學習課程體與傳統數位學習課程體在學習成效及滿意度的差異。二、發展與應用推薦機制於數位學習課程體中，並且將其整合至數位學習系統，以分析推薦機制應用於三種不同的數位學習課程體之成效差異。

關鍵字：Novak 概念圖; 課程體; 改良式概念圖; 推薦機制

Abstract

Concept map was suggested by Novak in 1972 and its main purpose was to help learners own a complete knowledge structure. In digitized knowledge era, using Novak concept map in e-learning which caused a number of shortcomings and weaknesses. Moreover, there were few researches relating to improve Novak concept map with e-learning. Therefore, this study designs the e-learning courseware according to the characteristic of hyperlinks and use progressive concept map's characteristics which are deeper and broader. In order to make up the deficiencies of Novak concept maps in e-learning. There are two main purposes of this study. First, using Novak concept map and progressive concept map to build two kinds of e-learning courseware separately, and then integrate it into the e-learning system. Besides, we discuss the differences between Novak concept map and progressive concept map of e-learning courseware and traditional e -learning courseware in learning outcomes and satisfaction differences by experimental teaching. Second, develop and apply the recommended mechanisms in the e-learning courseware, and integrate it into e-learning system. Consequently, analyze the differences on the effectiveness of recommended mechanisms which applies to three different kinds of e-learning courseware.

Key words：Novak concept map; Progressive concept map; Courseware; Recommendationmechanism