ABSTRACT

The construction of concept maps is complicated, time consuming and subjectively biased by teachers. Thus, approaches of statistics, grey theory, Apriori association rules have been used to simplify and objectify the construction process of concept maps. However, it will take quite a long time to completely form a concept map through the learning history for a student. Therefore, the method of concept maps could afford little help for a novel learner. A new approach of automatically constructing concept relationship maps is proposed and studied by utilizing the content tables, indexes and question item banks of a textbook in the research. In addition, the information obtained from the search engine is also utilized to determine the relationships between concepts. A series of experiments are done on the information obtained from the course "Database Systems". The major differences between concept relationship maps we proposed and the traditional concept maps are: first, the concept relationship map abstractly describes the overall contents of a textbook; on the other hand, the traditional concept map only focuses on the misunderstanding concepts during learning and cannot reflect the relationships of all involved concepts. Second, in addition to inheritance, the relationship within the concept relationship map may imply both the concept precedence and the completeness of relevant concepts during learning.

Keywords: Concept Maps, Concept Inheritance Relationships, Learning Sequence


Veselin (民90):互動式概念關係建立輔助系統在學習診斷之應用。國立暨南國際大學資訊管理研究所碩士論文，未出版。

廖浚宏(民92):以條件機率為基礎之學習障礙診斷模式。國立暨南國際大學碩士論文，未出版。

陳榮昌，陳仲豐(民92) 基於灰關聯分析的學習概念診斷。第九屆灰色系統理論研討會論文集，台灣台中嶺東技術學院。

蕭維仁(民93):改良型概念繼承關係為主的測驗診斷系統。臺中健康暨管理學院碩士論文，未出版。

蔡浚明(民92), 以連結分析法診斷個人概念圖，元智大學碩士論文，內壢。

許慶昇、杜淑芬、黃國禎(民92) 概念繼承關係在網路智能型學習診斷系統之應用。第七屆國際電腦輔助教學研討會論文集，頁352-359。
