

# Item Selection Strategic via Social Network Analyze

應鳴雄, 黃浩軒

Information Management

Computer Science and Informatics

mhying@chu.edu.tw

## Abstract

In recent years, more researchers choose to use information technology into test environment, this is not only makes the results of experiment more efficient, but also diversify the use of the test. In the past, some researchers developed a test system based on concept of Adaptive Test (PPATS). Although the system has been shown to maintain the confidence of students and can improve the learning performance effectively, but we still do not understand the relationship between items. Therefore, this study uses an aspect based on the social network technique, which is, at any item is an independent node and base on this social network analysis technique we try to find out the reasons and similar characteristic between items which have the high relations. The purpose for this is to provide a strategy for teachers to adjust and improve the way whiles selecting items.

Finally, this study observes that the Bloom's Taxonomy is the obviously main reason for high relation between items. Especially in the [Conceptual] [Remember], those items are easy to produce high correlation. Therefore, if there are some related 「PPATS」 testing systems, which also used of the Bloom's Taxonomy, our foremost recommend is to reduce the number of items corresponding to [Conceptual] and [Remember], this must be the best way to degrade the correlation for any generated paper.

Keyword : Computer Adaptive Test; revision of Bloom's taxonomy; Social Network Analysis