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應用自我評量策略於國中網路教學之效益評估
Assessing the Effectiveness of Utilizing Self-Actualization Strategy in Junior High School Teaching: A Case Study of Self-Assessment

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中文摘要

本研究擬應用 WATA 系統（Web-based Assessment and Test Analysis System）之形成性評量模組-「FAM-WATA（Formative Assessment Module of the WATA system）」建構一個具備提供「自我評量（self-assessment）」策略的網路教學環境，藉以營造一個引發學習者自我實現精神的教學環境，使學習者自動自發的學習，並且實際應用於國中生物科網路教學情境中，用以比較學習者在傳統教學與此教學設計下的學習效益差異。本研究採用準實驗研究法，共有 117 位國中一年級學生參與本研究，本研究將參與的學生共分為兩組，「網路教學組（採用 FAM-WATA）」49 人與「傳統教學組」68 人，在經過為期三週的教學後發現 (1) 「網路教學組」的學習效果顯著比「傳統教學組」好。(2) 「網路教學組」學生之 FAM-WATA 的使用與表現情形與其學習效益有顯著正相關。由此初步的研究發現可知，採用「FAM-WATA」設計之「自我評量」網路教學策略，是具有良好學習效益，且可以進行更進一步的研究，並將其實際推廣應用於網路教學環境中，用以提升網路學習效益。

關鍵字：自我實現; 自我評量; 形成性評量; 網路評量; 網路教學; FAM-WATA 系統

Abstract

The main purpose of this study was to develop a WBI strategy, FAM-WATA (Formative Assessment Module of the WATA system), which was used to construct a WBI environment embedded with 'self-assessment'. The design of 'self-assessment' was capable of fostering self-actualization, and to compare the learning effectiveness of traditional instruction with that of the WBI strategy by actually applying it to the WBI teaching and learning environment in junior high school's biology classes. The Quasi-Experimental design was employed and there were 117 participants. After the three-week instruction of 49 students in e-Learning group (FAM-WATA) and 68 students in traditional instruction group, the results were shown as follows. First, the learning achievement of e-Learning group was significantly better than that of traditional instruction group. Second, as for the e-learning students, their using and performance conditions of FAM-WATA were significantly related to their learning effects. Therefore, FAM-WATA, which can foster learner's self-actualization to promote learning effectiveness, was worth further research and application. And by using it in the WBI environment, the WBI effects can be boosted. Moreover, this study suggested that the WBI researchers need to fully develop the characteristics of student-centered and active learning in WBI environment under the basis of the self-actualization. Therefore, more WBI strategies or tools, which elevate self-actualization and learners' potential of self-guidance, can be designed to increase the WBI learning effects concretely.

Key words：Self-actualization; Self-assessment; Formative assessment;
Web-based assessment; Web-Based Instruction(WBI);
FAM-WATA(Formative Assessment Module of the WATA system)