

生活數學之學習成效初探－以乘法公式為例

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摘 要

本研究旨在探討以生活情境素材所發展之乘法公式教材，其實施之成效。研究者以任教之一班八年級常態班學生為對象，使用問題中心雙環（或 PCDC）教學模式進行教學實驗，蒐集資料分析學生之學習成效。除了質性資料之外，從評量單及段考題的答對率分析，以及評量單延後測之 t-考驗結果，都顯示研究對象學習困難的改善及學習成效的持續。而在學習態度方面，學生樂於溝通分享，且樂於思考及解題。認知需要量表的 t-考驗結果顯示生活數學教材有助於刺激學生進行思考及解題活動。因此不論在學習成就或學習態度上，生活數學教材之學習成效皆優於傳統講述教學。在乘法公式概念的學習上，生活數學提供學生另一有效的學習方式。

關鍵詞：生活數學教學模組、問題中心雙環教學、乘法公式。

The Discussion of the Implementation Result about Life Mathematics—Take 「Multiplicative Identities」 as a Example

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Abstract

This study aimed at investigating the effects of implementing the instructional module of multiplicative identities in context of everyday life. One 8th grade class was the subject of this study and implementing the module of multiplicative identities by using the PCDC teaching model. Data collection included observations, interviews, questionnaire, journals, school regular test, and the Need for Cognition Scale. In addition to the qualitative data analysis, the rate of correct answer on regular tests and the T-test result of the examination of two classes about the conception of multiplicative identities. Also the T- test result of the Need for Cognition scores revealed that the performance of thinking and problem solving of students had improved ($p < 0.001$). According to the results of this study, we could conclude that the instructional module of multiplicative identities in context of everyday life has a better effect than the traditional one.

Key words: instructional module, multiplicative identities, PCDC.