

錨定歷史 (Anchored in History) 教學模式的先導研究  
The Pilot Study of the AIH (Anchored in History) Teaching Model

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中文摘要

科學史教學的研發一直是科教界重要的研究議題。然而，鮮有結合視訊影片之教學探討與研究，本研究擬進行個案研究，並以行動研究為輔，亟思在小學情境中以科學史影片進行相關研究。本研究者依據 MindWorks (WestEd in the Southwest Regional Laboratory, [SWRL], 2000) 課程的「錨定歷史」(Anchored in History) 理念，以及，Monk 和 Osborne (1997) 提倡的科學史教學歷程，發展符合研究者教學情境的錨定歷史教學模式，其實施歷程主要包括：(一) 引入 (Engagement); (二) 沉浸 (Immersion); (三) 整合 (Consolidation); (四) 計劃 (Plan); (五) 實驗 (Experiment); (六) 檢驗 (Examination); (七) 澄清 (Clarification) 等步驟。最後，研究結果顯示，結合科學史影片的教學確能提昇學習者的專注力與興趣，以及，有助其理解與感受歷史所描繪的情境；而與實驗結合的課程設計，不僅能提昇學生的學習興趣、使學生明白科學課程與實驗的相互連結關係，亦能增進學生科學概念的學習。

關鍵字：科學史; 影片; 熱力學

## Abstract

The studies of the teaching history of science are always an important issue in science education. However, few studies have integrated the video of the history of science into teaching. Therefore, the major purpose of this study is to develop a course which involves the use of the science history video to see what impacts it may have upon students. This study is based mainly on the principle of case study, with that of action study taken into consideration. On the basis of the AIH (Anchored in History) idea of the MindWorks curriculum designed by theWestEd in the Southwest Regional Laboratory ([ SWRL ],2000) and the teaching model of science history provided by Monk and Osborne (1997) , this study tries to construct the teaching model that fits the AIH idea. Through the implementation of thermodynamics unit, we generalize the procedure of the AIH teaching model. The AIH procedure includes : engagement, immersion, consolidation, plan, experiment, examination and clarification. The result of this study indicates that the video of science history can attract students' attention, and help them understand and identify with the historical context . Furthermore, this curricular design involves experiments in the laboratory, which can not only arouse students' interests and facilitate their understanding of the relationship between the science curriculum and the experiments, but also promote the learning of scientific concepts.

Key words : History of science; Video; Thermodynamics