

## 摘要

本研究旨在探討 STEAM 教育思潮及跨領域美感教育專題教學設計模式。本研究採行動研究法，以某國小五年級資優班學生為研究對象，設計 STEAM 跨領域美感教育專題課程，參考 6E 學習模式，並以專題學習（project-based learning）的形式統整藝術、工程及科技領域學習內容。本研究以「古蹟文化保存」為核心議題，引導學生進行美感專題探究，發展藝術創作行動並應用於擴增實境（augmented reality，簡稱 AR）藝術導覽進行文化推廣。在課程實施歷程中，本研究蒐集學生的活動心得紀錄、小組研究日誌、回饋意見與研究省思，以及教師課程觀察與教學省思。研究結果發現：（1）專題學習結合 6E 模式教學設計有助發展 STEAM 跨領域美感教育探究與實作；（2）探索體驗學習有助培育生活美感素養；（3）小組合作學習與專題任務設計有助創意思考和問題解決；（4）科技融入有助統整 STEAM 課程學習與創新應用。最後，本研究提出未來 STEAM 跨領域美感教育專題課程設計與實施建議。

**關鍵詞：**6E 學習模式、STEAM 教育、專題學習、跨領域美感教育、擴增實境

## Abstract

This study aims to explore the education trend, STEAM (science, technology, engineering, arts, mathematics) and the model for designing a teaching project on cross-disciplinary aesthetic education. This study adopted action research, with fifth graders of a gifted class as subjects. The design of the project on STEAM cross-disciplinary aesthetic education is based on the 6E learning model. The contents related to arts, engineering, and technology are integrated by project-based learning. This study focuses on Historic Sites and Cultural Preservation to lead students to explore aesthetic issues, develop artistic creation, and apply the augmented reality (AR) art guide to cultural promotion. Students' thoughts on course activities, team study logs, feedback, opinions, study reflections, and the teacher's observations and reflections were collected throughout the course. The findings are as follows: (1) the integration of project-based learning with the 6E learning model helps to develop exploration and practice on STEAM cross-disciplinary aesthetic education; (2) exploration and experience-based learning helps to cultivate students' aesthetic competence in everyday life; (3) teamwork learning and project task design stimulate creative thinking and are useful for working out solutions; and (4) the use of technology helps to integrate STEAM course learning and innovation application. Based on these, this study recommends ways to design and implement STEAM in cross-disciplinary aesthetic courses.

**Keywords:** 6E learning model, STEAM, project-based learning, cross-disciplinary aesthetic education, augmented reality