

Chapter 17

The Quality of Visual Arts Activities in STEAM Education in Vietnam

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ABSTRACT

This chapter provides an overall analysis of the role and quality of visual arts activities in STEAM education from 2018 to 2024 in Vietnam, based on a review of published studies on STEAM and a survey conducted among fine arts teachers in Ho Chi Minh City – one of the country's leading and important educational centers. The survey found that over 70% of teachers recognized the importance of visual arts in promoting holistic development through STEAM, and the integration of fine arts into the STEAM curriculum was limited. The findings indicate a significant gap between the educational goals of fine arts and its actual implementation in STEAM education, especially in mainstream guidelines for organizing STEAM activities. This analysis provides a generalized recommendation for improving visual arts activities in STEAM subjects, while aiming to enhance interdisciplinary teaching and be relevant to the changing educational context of Vietnam in the digital age.

INTRODUCTION

STEM, short for Science, Technology, Engineering, and Mathematics, represents an interdisciplinary educational model that combines four different academic subject areas to create critical thinking, creativity, and problem-solving skills. Introduced in the early 2000s, countries have adopted STEM education to address the demands

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of a rapidly changing world and workforce with an emphasis on disciplines such as science and technology. It emphasizes hands-on learning and real-world applications, helping students acquire skills relevant to science and innovation (Ge et al., 2015; Taylor, 2016). Building upon the STEM framework and adding an extra letter for Arts, STEAM education has evolved into Science, Technology, Engineering, Arts, and Mathematics. This study also aims to create a more comprehensive educational approach that integrates artistic creativity with scientific and technical knowledge. Research shows that adding the art - turning STEM into STEAM - results in improved creative and cognitive development, nurturing abilities such as empathic understanding of context, design thinking, and social intelligence. (Liao, 2016; May & Clapp, 2017; Hunter-Doniger, 2018). Since its introduction in the 2000s, STEAM has demonstrated its potential to provide holistic education by integrating arts with scientific learning. Various studies conducted by researchers and educators in different countries, such as the report “Creative Health: The Arts for Health and Wellbeing” by the All-Party Parliamentary Group on Arts, Health and Wellbeing in the UK in 2017, “The Integration of the Humanities and Arts with Sciences, Engineering, and Medicine in Higher Education” by the American Academy of Arts and Sciences in 2018, and the “China STEAM Development Report” in 2017, provide solid evidence from mature education on the contribution of artistic educational experiences to the achievements and success of education systems worldwide. Since the 2010s, STEAM has shown potential and relevance in supplementing the competencies required for learners in the 21st century (Ge et al., 2015; Taylor, 2016), receiving unprecedented attention from scholars, researchers, and educators at various levels. Since 2020, STEAM education has become increasingly important in various educational systems aimed at developing well-rounded competencies for learners. Arts education, especially the visual arts, has been incorporated into STEM activities to enrich learning experiences.

Identifying the role of visual arts in STEAM education has garnered increasing attention from 2015 through studies from various countries worldwide. In Asia, studies conducted by Zengkun Li (China), Chia-Yu Liu and colleagues (Taiwan), Ahmad Dasuki Mohd Hawari and Azlin Iryani Mohd Noor (Malaysia), and Chae Dong-hyun and Kim Hyoungbum (South Korea) have explored the integration of arts into STEM, emphasizing the impact of arts on creative and cognitive development within interdisciplinary learning. Similarly, research in Europe and the United States includes works by Raquel Sanz-Camarero, Jairo Ortiz-Revilla, and Ileana M. Greca (Spain); the State Education Agency Directors of Arts Education (SEADAE); Michelle H. Land and James Haywood Rolling (USA); and Tetiana Tkachenko and colleagues (Ukraine) who have assessed how visual arts contribute to STEM competencies. These studies consistently highlight the necessity of arts-based teaching activities to enhance creativity, critical thinking, and problem-

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