Chapter 6
Attitude of Elementary School Teachers Towards STEAM Education

Santosh Kumar Behera
Kazi Nazrul University, India

Agamoni Chatterjee
Kazi Nazrul University, India

Nupur Gorai
https://orcid.org/0000-0001-9467-672X
Saltora B.Ed. College, India

Zaffar Ahmad Nadaf
https://orcid.org/0000-0002-7812-9782
Central University of Kashmir, India

ABSTRACT

STEAM education is an instructional approach that fosters student engagement, inquiry, and critical thinking. This study aimed to assess the attitudes of elementary school teachers toward STEAM education, exploring potential differences based on gender, location, caste, teaching experience, and age. The study employed a descriptive survey method, with elementary school teachers from the Paschim Bardhaman District of West Bengal serving as the population. A sample of 95 teachers was selected through simple random sampling. Data collection was conducted using a Likert-type attitude scale developed by the researchers. The results indicated no significant differences in teachers' attitudes toward STEAM education based on gender, location, caste, age, and teaching experience. Additionally, the study high-

DOI: 10.4018/979-8-3693-7408-5.ch006

lighted various perceived merits and challenges associated with STEAM education from the perspective of elementary school teachers.

INTRODUCTION

Education is the process of acquiring knowledge, values, skills, and habits that enable individuals to grow throughout their lives, benefiting themselves and contributing to societal improvement. It encompasses a broad range of concepts, including knowledge, experience, learning, and teaching. Education can take various forms, such as basic, technical, vocational, social, and humanistic education (Doharey et al., 2023). As individuals progress through different educational levels, they are introduced to various subjects and disciplines. Education provides an integrated approach that fosters creativity and enhances the understanding of connections between subjects such as science, mathematics, literature, and the arts. Through this exposure, students can discover their passions and interests, which aids in choosing specialized fields that align with their strengths.

Education is also crucial for developing social-emotional intelligence and character alongside the acquisition of knowledge. It fosters tolerance, understanding, and empathy, encouraging individuals to embrace diversity and respect others' opinions. Through group projects, collaborative learning, and community involvement, education promotes responsibility and civic engagement (Ashikuzzaman, 2023). Technology has significantly enhanced education, presenting two major opportunities: improving instruction by filling gaps in quality, offering more practice opportunities, extending learning time, and personalizing learning experiences. Additionally, technology actively engages students by presenting content in innovative ways and fostering collaboration and discussion (UNESCO, 2023).

Historically, educational systems have often required students to choose between the arts and sciences, limiting the development of both technical and artistic skills. Art students were typically not given the opportunity to enhance their technical abilities, while science students missed the chance to cultivate their artistic potential (Connor et al., 2015). This rigid framework restricted the development of well-rounded individuals by creating artificial boundaries between disciplines. Historical figures such as Leonardo Da Vinci exemplified the value of comprehensive education, seamlessly blending art and science in his work as a painter, mathematician, and scientist.

The traditional focus of STEM (Science, Technology, Engineering, and Mathematics) education has been on building technical expertise. However, to address real-world challenges creatively, a holistic approach that integrates creative thinking with technical knowledge is essential (Watson, 2013). By incorporating the “A” for Arts into STEM, the acronym becomes “STEAM,” a modern approach that blends