

**Student Internship Scheme – 2024**  
**Cluster Innovation Centre**

**Project Title:** Impact of Educational Field Trips on Mathematical Learning

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**Abstract:**

This research project investigated the impact of different instructional methods on students' understanding of symmetry in mathematics, focusing on the efficacy of traditional teaching, paper folding activities, and 3D model presentations. Conducted over six months with Grade 7 students from a government school in Delhi, India, the study aimed to evaluate the effectiveness of virtual field trips as a substitute for physical excursions. Due to permission constraints, the research employed a 3D model video presentation of Jantar Mantar as an alternative to a physical visit. A comprehensive literature review was conducted, analyzing ten research papers from sources including Google Scholar, ERIC, JSTOR, and ResearchGate, which emphasized the role of experiential learning in mathematics education. The study involved comparing learning outcomes using three distinct methods: traditional instruction, hands-on paper folding, and exposure to 3D model presentations. Data was collected through post-intervention worksheets, revealing that students exposed to the 3D model presentations achieved the highest scores, with an 8.75% increase over traditional methods and a 10.13% increase over paper folding methods. This research highlighted the potential of virtual field trips and modern technology in enhancing mathematical learning and provides valuable insights for integrating these tools into educational practices. The researchers recommended that educational trips should be included in the math curriculum wherever possible. Future research is recommended to further explore long-term effects, compare physical and virtual trips, and examine the impact of immersive technologies on learning outcomes.

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