

Planetarium pedagogy and technical learning experience: an investigation from instructional perspectives

ABSTRACT

The research focused on the National Planetarium Kuala Lumpur's education programs, investigating the types and target audiences. It examined the educational theories and strategies used, including multiple intelligence theory and cooperative learning. The study also explored the alignment of astrophysics in Pearson Edexcel International General Certificate of Secondary Education (IGCSE) Physics with the Planetarium's programs. Document analysis and participant observation were employed. The results revealed two program types: on-site and online. The programs showed alignment with IGCSE Physics and utilized theories like social cognitive theory. The National Planetarium positively impacted students through multi-intelligence theory, sociocultural theory, experiential theory, and constructivism. Gamification and group activities enhanced the learning experience. The Planetarium's ability to simulate astronomical events made it an effective medium for instructional science institutions. Overall, the study highlighted the diverse education programs of the National Planetarium Kuala Lumpur, their alignment with IGCSE Physics, and their positive impact on students' personal, physical, and social contexts.