EFFECTIVENESS OF POLY JENGA IN TEACHING PROPERTIES OF POLYGONS IN GEOMETRY AMONG GRADE 7 LEARNERS AT NOVALICHES HIGH SCHOOL

ABSTRACT

AUTHORS
Jyveth Alexandra Bueque
Fhelmarie Kate Fronda
Dawn Jane Miral
Karla Angela Palima
Roselle Serdeña
Jhon Mark Subaan

RESEARCH ADVISER
Michael L. Bersamin, LPT

AFFILIATION
Bestlink College of the Philippines

DISCIPLINE
Education

KEYWORDS
poly jenga, geometry, manipulatives, properties of polygons, game-based learning, student engagement

ARTICLE ID
AASGBCPJMRA-AB63322

This study determined the effectiveness of Poly Jenga in teaching the properties of polygons in geometry among Grade 7 learners at Novaliches High School. It focused on students' knowledge of polygon concepts, classroom engagement, and performance development. The study employed a quasi-experimental design involving 176 Grade 7 learners selected through cluster sampling. Researcher-made pretests and posttests measured learning gains, while a survey questionnaire assessed students' perceptions of Poly Jenga's effectiveness. Students strongly agreed with the assessed indicators, with composite weighted means of 3.76 for engagement, 3.72 for exploration, and 3.73 for exchange of information. These ratings indicate favorable perceptions of active participation, discovery, understanding of geometric concepts, peer interaction, and knowledge sharing. A significant pretest–posttest difference was reported ($t = 35.59$, $p = 0.00001 < 0.05$), indicating improved performance after the integration of Poly Jenga. The findings support the use of interactive manipulatives in teaching mathematical concepts. Poly Jenga was associated with active participation, collaborative learning, and improved performance in the properties of polygons.

RECOMMENDED CITATION

Bueque, J. A., Fronda, F. K., Miral, D. J., Palima, K. A., Serdeña, R., & Subaan, J. M. (2026). Effectiveness of Poly Jenga in Teaching Properties of Polygons in Geometry among Grade 7 Learners at Novaliches High School. *Ascendens Asia Singapore – Bestlink College of the Philippines Journal of Multidisciplinary Research Abstracts, 8*(6), 35.