

## The Impact of an Interactive E-Book on Mathematics Reading and Spatial Ability in Middle School Students

**Authors :** Ababayehu Yohannes, Hsiu-Ling Chen, Chiu-Chen Chang

**Abstract :** Mathematics reading and spatial ability are important learning components in mathematics education. However, many students struggle to understand real-world problems and lack the spatial ability to form internal imagery. To cope with this problem, in this study, an interactive e-book was developed. The result indicated that both groups had a significant increase in the mathematics reading ability test, and a significant difference was observed in the overall mathematics reading score in favor of the experimental group. In addition, the interactive e-book learning mode had significant impacts on students' spatial ability. It was also found that the richness of content with visual and interactive elements provided in the interactive e-book enhanced students' satisfaction with the teaching material.

**Keywords :** interactive e-books, spatial ability, mathematics reading, satisfaction, three view

**Conference Title :** ICMET 2022 : International Conference on Mathematics Education and Technology

**Conference Location :** San Francisco, United States

**Conference Dates :** September 27-28, 2022