

ABSTRACT

The lack of understanding of elementary school students in sorting waste has an impact on the low awareness of maintaining environmental cleanliness. This research aims to develop an Android-based waste-sorting educational game as a fun interactive learning media. This game is designed using the Multimedia Development Life Cycle (MDLC) method. It includes a variety of waste types (organic, inorganic, and B3) as well as a multi-level system to maintain user interest. Testing was conducted using the black box method, usability testing using UMUX, and task scenario through the Lyssna platform. A total of 39 3rd-grade students from SD Negeri Kaliwungu 01 Kedungreja participated in the test. The results show that all game features function as intended, with an average UMUX usability score of 87.5, which is classified as Grade B (Excellent) according to the Bangor Usability Scale. As many as 80% of the students were also able to follow the instructions correctly, indicating that the game interface is quite intuitive. In conclusion, this game is feasible for use as digital learning media and effective in improving students' understanding of waste segregation.

Keywords: Android, Educational Game, MDLC, Waste Sorting, UMUX, Usability testing