

ABSTRACT

This research aims to develop a mobile-based Madura Carakan learning application using Design Science Research Methodology (DSRM) and Software Development Life Cycle (SDLC) Prototype development method with React Native framework. This application is designed to increase the interest and effectiveness of SD INTEGRAL LUQMAN AL-HAKIM Sumenep students in learning Carakan Madura, which was previously done conventionally through book media. Development was carried out iteratively through three cycles based on the DSRM stages, as well as adopting a prototype model that allows continuous improvement based on user feedback. The main features of the application include script material, voice pronunciation (sowara), interactive quizzes, as well as educational games such as matching, completing, and arranging characters. Evaluation was conducted through moderated usability testing with grade 4 students, who indicated that the app is easy to use, increases learning engagement, and provides a fun learning experience. These results prove that the Aksara Gajang application can be an effective digital solution in supporting the learning process while contributing to the preservation of local language and culture.

Keywords: *Carakan Madura, DSRM, SDLC Prototype, React Native, Gamification, Usability Testing.*