

***DESIGN AND DEVELOPMENT OF THE 'MY WICARA'
APPLICATION AS A THERAPEUTIC AID FOR CHILDREN WITH
SPEECH DELAY***

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ABSTRACT

Communication limitations in children with speech delay often hinder their learning processes and social interactions. Furthermore, conventional therapy methods that rely on physical cards are considered impractical, and the assessment of pronunciation articulation remains manual or subjective. As a solution to these problems, this research designs and develops "MyWicara", an interactive Android-based speech therapy assistive application. This application is developed using the Flutter Framework and Firebase Cloud Firestore database, integrating the Google Speech API to automatically validate students' pronunciation through the Speech-to-Text (STT) feature. The digital flashcard system in this application also implements syllable-by-syllable vocabulary reading to provide a more structured stimulus. System evaluation was conducted using Black Box Testing to ensure system performance, as well as field testing directly observed by educators at SLB Negeri Bengkalis. The test results show that all interactive interfaces, from the flashcard module to the pronunciation quiz feature, function properly. The MyWicara application is proven to be highly helpful in the speech therapy process due to its automatic and measurable pronunciation evaluation system, along with the availability of the Individual Learning Program (PPI) report printing feature, which makes it easier for educators to systematically compile tracking records of the students' articulation development.

Keywords: *Speech delay, MyWicara, Flutter , Firebase, Google Speech API*