DEVELOPMENT OF ADAPTIVE READING LEARNING AND ASSESSMENT WEBSITE FOR GRADE 1 AND GRADE 2 ELEMENTARY SCHOOL CHILDREN USING THE NAIVE BAYES CLASSIFIER METHOD

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ABSTRACT

The reading ability of Indonesian students, especially in the first and second grades of elementary school, is still low based on the PISA 2018 and 2022 evaluations. This study aims to develop an adaptive learning and assessment website based on the Naive Bayes Classifier (NBC) method with a normal or Gaussian distribution approach to improve students' reading accuracy and fluency. The study was conducted at SDN 2 Gesikan, Tulungagung, with assessment data based on three criteria: level of understanding, accuracy, and processing time. This website is equipped with letter recognition features, writing practice, learning videos, reading practice, speech recognition technology, and adaptive assessment. NBC was chosen because of its simplicity, efficiency, and proven accuracy, although it has weaknesses in zero conditional probability. The results of the analysis showed that students in grade 1 in the advanced category had an average level of understanding of 94.38% (±2.64), accuracy of 92.88% (± 1.90) , and a processing time of 55.25 seconds (± 3.80) , while grade 2 advanced students reached 88.4% (\pm 3.93), 90% (\pm 3.85), and 48.4 seconds (\pm 3.72). Testing of test data for grades 1 and 2 showed an accuracy, precision, and recall of 100%, with the accuracy of the website system reaching 91,67%.

Keywords: Naive Bayes Classifier, Gaussian, Educational Technology, Reading Assessment, Adaptive Learning.