

Abstract

Kotak Belajar Ajaib (Kobela) is props for elementary school math class II which can help learn to calculate multiplication and division. Based on research conducted by Sugeng Harnanto, Kobela can improve concentration, increase creativity and student learning outcomes. This tool has been tested in low-grade learning and extracurricular learning activities. The average student success in learning without using teaching aid is 54.56 (56.77%), after using teaching aid the average learning success rate reaches 90.52 (94.19%). The level of mastery learning for Basic Competencies: 3.1 Doing Multiplication of Two Numbers have increased by 37.42. In previous studies, the application of Kobela teaching aid in all learning activities was still manual-based. Potential or opportunities for development, especially for reading assessments and automatic data storage are possible to be achieved by implementing the Internet of Things (IoT). In this study, Kobela was built which implements IoT technology for reading, assessment, and recording based on learning activities. Then evaluate the system by testing the functionality of all the learning activities. From the test results, it was found that the system was running 100% by the specified function. The results of system performance testing in terms of sensor readings are on average 3 seconds with 8 Watt room lighting conditions and the average value of the assessment accuracy is 84.

Keywords: Kobela, IoT, arduino, color sensor, system performance