

**EFEKTIVITAS TEKNOLOGI ASISTIF BERBASIS *UNIVERSAL DESIGN*
FOR LEARNING (SIMATIKA) TERHADAP AKSESIBILITAS DAN
PENGETAHUAN MATEMATIKA SISWA INKLUSI KELAS II
SDN 2 BENGKALA**

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ABSTRAK

Penelitian dilakukan dengan tujuan mengetahui efektivitas teknologi asistif berbasis *Universal Design for Learning* (UDL) melalui Simatika terhadap aksesibilitas dan pengetahuan Matematika siswa inklusi kelas II Sekolah Dasar. Desain penelitian *pre-experimental* berupa *one-group pretest-posttest design*. Terdapat 16 siswa sebagai subjek penelitian. Data aksesibilitas dikumpulkan menggunakan kuesioner, sedangkan data pengetahuan Matematika diperoleh melalui tes hasil belajar. Analisis data diperoleh dengan menggunakan statistik deskriptif, uji normalitas *Shapiro-Wilk*, uji *paired samples t-test*, dan analisis *effect size Cohen's d*. Penggunaan Simatika memberikan pengaruh yang signifikan terhadap aksesibilitas siswa inklusi pada Sig. (2-tailed) sebesar $0,001 < 0,05$. Besarnya pengaruh yang diberikan berada pada kategori tinggi dengan nilai *Cohen's d* sebesar 2,22 dan kontribusi sebesar 55,2%. Selain itu, penggunaan Simatika juga memberikan pengaruh yang signifikan terhadap pengetahuan Matematika siswa inklusi dengan nilai Sig. (2-tailed) sebesar $0,001 < 0,05$. Besarnya pengaruh terhadap pengetahuan Matematika termasuk kategori tinggi dengan nilai *Cohen's d* sebesar 2,67 dan kontribusi sebesar 64,1%. Kesimpulan bahwa teknologi asistif pendekatan UDL melalui Simatika efektif meningkatkan aksesibilitas dan pengetahuan Matematika siswa inklusi kelas II Sekolah Dasar.

Kata kunci: Teknologi Asistif, Simatika, Aksesibilitas, Pengetahuan Matematika, Siswa Inklusi.

***THE EFFECTIVENESS OF ASSISTIVE TECHNOLOGY BASED ON
UNIVERSAL DESIGN FOR LEARNING (SIMATIKA) ON ACCESSIBILITY
AND MATHEMATICS KNOWLEDGE OF SECOND GRADE INCLUSIVE
STUDENTS AT SDN 2 BENGKALA***

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ABSTRACT

This study aimed to determine the effectiveness of assistive technology based on Universal Design for Learning (UDL) through Simatika on the accessibility and mathematics knowledge of inclusive students in second grade of elementary school. The research employed a pre-experimental design in the form of a one-group pretest-posttest design, involving 16 students as research subjects. Accessibility data were collected using a questionnaire, while mathematics knowledge data were obtained through a learning achievement test. Data were analyzed using descriptive statistics, the Shapiro-Wilk normality test, the paired samples t-test, and Cohen's d effect size analysis. The use of Simatika had a significant effect on the accessibility of inclusive students, with a Sig. (2-tailed) value of $0.001 < 0.05$. The magnitude of the effect was categorized as high, with a Cohen's d value of 2.22 and a contribution of 55.2%. In addition, the use of Simatika also had a significant effect on the mathematics knowledge of inclusive students, with a Sig. (2-tailed) value of $0.001 < 0.05$. The effect on mathematics knowledge was also categorized as high, with a Cohen's d value of 2.67 and a contribution of 64.1%. It can be concluded that UDL-based assistive technology through Simatika is effective in improving the accessibility and mathematics knowledge of inclusive students in second grade of elementary school.

Keywords: Assistive Technology, Simatika, Accessibility, Mathematics Knowledge, Inclusive Students.