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Needs Analysis for Developing Interactive Learning Resources Assisted by Geogebra Through the Spada Unismuh Learning Management System to Improve Students' Mathematical Visualization Skills

- **Sri Satriani**Universitas Muhammadiyah Makassarhttps://orcid.org/0000-0002-1837-3361

- **Kristiawati Kristiawati**Universitas Muhammadiyah Makassarhttps://orcid.org/0000-0003-4574-8728

- **Muhammad Rizal Usman**Universitas Muhammadiyah Makassarhttps://orcid.org/0000-0002-2148-6586

- **Wahyuddin Wahyuddin**Universitas Muhammadiyah Makassarhttps://orcid.org/0000-0003-0195-7704

Abstract

Purpose of the study: This study aims to analyze the need for developing GeoGebra-assisted interactive learning resources integrated into the SPADA Learning Management System to improve students' mathematical visualization skills.

Methodology: The study involved 29 lecturers from the Mathematics Education Study Program at Universitas Muhammadiyah Makassar. A questionnaire was used to gather data on first-year undergraduates needs regarding GeoGebra-based learning resources in SPADA Learning Management System. Data analysis was quantitative using descriptive statistics and qualitative analysis for suggestions.

Main Findings: The study revealed that 83% of lecturers emphasized the importance of developing GeoGebra-assisted learning resources in SPADA Learning Management System to improve understanding of abstract mathematical concepts. Most lecturers were familiar with SPADA LMS, but the use of features for mathematical visualization was limited.

Novelty/Originality of this study: This study is the first to analyze the need to integrate GeoGebra into the SPADA Learning Management System in order to improve mathematics learning through interactive visual representations. This study expands knowledge by proposing an innovative approach to improve mathematical visualization, helping students better understand abstract concepts, and improving student learning outcomes in mathematics.