

## Integration of Needs Analysis for Digital Teaching Materials in Realizing Technology Based Learning in the 21st Century

This research aims to integrate needs analysis in the development of digital teaching materials in order to realize effective technology-based learning in the 21st century. This research was carried out using a quantitative approach. The main research data came from 84 students and lecturers spread across three universities, namely Riau University, Muhammadiyah University of North Sumatra, and Padang State University. Data collection techniques using Likert scale questionnaires. Analysis techniques use descriptive and inferential statistical procedures. The results of the analysis show that the need for digital teaching materials in realizing technology-based learning in the 21st century is categorized as needed from various aspects with an average of 3.50 with a standard deviation of 0.549. Every aspect is valid and normal with the sign.  $0.05 < 0.579$ . Factor analysis in each section is categorized as relevant in analyzing the need for digital teaching materials, namely above 0.7. The correlation analysis, all data is correlated and has a significant role, indicated by the sign value.  $0.000 < 0.05$ . The Anova test shows that all aspects of content, language, material presentation, graphics, evaluation, media and learning strategies have their own characteristics and are needed in presenting digital teaching materials for technology-based learning. Proper integration of needs into teaching materials can have an influence on technology-based learning outcomes by 69.9% at a significance level not exceeding 0.05. The integration of needs analysis in the development of digital teaching materials is an important step in realizing effective technology-based learning in the 21st century. Every aspect of need must be carefully considered so that the digital teaching materials produced can truly meet the needs of students and support the achievement of optimal learning goals.

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