

**PENGEMBANGAN LMS FISIKA BERBASIS LITERASI SAINS  
TERKAIT KONTEN ENERGI DALAM KONTEKS AGRIKULTUR  
(FARMER) DAN PENERAPANNYA UNTUK MENINGKATKAN  
LITERASI SAINS PESERTA DIDIK SMK PERTANIAN**

*Diajukan untuk Memenuhi Sebagian Syarat Memperoleh Gelar Magister  
Pendidikan*

*Program Studi Pendidikan Fisika*

**TESIS**



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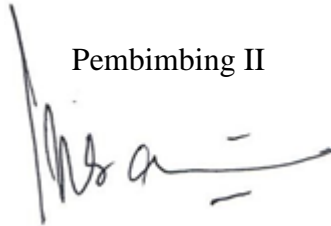
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**Abstrak**

Penelitian ini bertujuan untuk mengembangkan Learning Management System (LMS) Fisika berbasis literasi sains terkait konten Energi dalam konteks Agrikultur untuk meningkatkan kemampuan literasi sains peserta didik SMK Pertanian. Metode penelitian ini adalah metode penelitian dan pengembangan (Research and Development) menggunakan model pengembangan ADDIE (Analysis, Design, Development, Implementation, dan Evaluation). Pada tahap analisis dilakukan Analisis kebijakan dan literasi, konteks, kompetensi, konten, dan tujuan. Pada tahap desain dilakukan penyusunan kisi-kisi, pemilihan media, pemilihan format, dan penyusunan storyboard. Pada tahap pengembangan dilakukan pengembangan untuk menghasilkan produk LMS Farmer menggunakan software Articulate Storyline sesuai rancangan pada tahap design. Pada tahap implementasi dilakukan uji ahli terhadap karakteristik media dan materi, revisi, uji penggunaan dan efektifitas kepada pengguna dalam ujicoba terbatas. Pada tahap evaluasi dilakukan analisis dan evaluasi terhadap hasil implementasi untuk mendapatkan produk akhir LMS Farmer. Setelah itu produk akhir LMS Farmer lalu diterapkan di lapangan dalam pembelajaran di kelas eksperimen. Pengolahan data validasi karakteristik LMS Farmer dilakukan dengan persentase. Pengolahan data peningkatan skor tes kemampuan literasi sains dianalisis secara statistik menggunakan N-Gain. Sedangkan pengolahan data pengaruh LMS Farmer terhadap peningkatan kemampuan literasi sains dilakukan dengan effect size menggunakan cohen's d. Hasil penelitian menunjukkan bahwa Pembelajaran menggunakan LMS Farmer memberikan peningkatan dan pengaruh yang lebih tinggi terhadap kemampuan literasi sains bila dibandingkan dengan pembelajaran tanpa menggunakan LMS Farmer.

Kata Kunci : Learning Management System (LMS), Fisika, Agrikultur, Literasi Sains

# **THE DEVELOPMENT OF PYHSICS LMS BASED ON SCIENCE LITERACY RELATED ENERGY CONTENT IN AGRICULTURAL CONTEXT (FARMER) AND ITS APPLICATION TO IMPROVE SCIENCE LITERACY OF AGRICULTURE VOCATIONAL SCHOOL STUDENTS**

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## **Abstract**

This research aims to develop Learning Management System (LMS) Physics based on scientific literacy related to Energy content in the context of Agriculture to improve the scientific literacy skills of SMK Agriculture students. This research was conducted using research and development methods (Research and Development) through the ADDIE development model (Analysis, Design, Development, Implementation, and Evaluation). In the analysis stage, policy analysis and literacy, context, competence, content, and objectives are carried out. At the design stage, the preparation of the grid, media selection, format selection, and storyboard preparation are carried out. At the development stage, development is carried out to produce LMS Farmer products using Articulate Storyline software according to the design at the design stage. At the implementation stage, expert tests were carried out on media and material features, revisions, usability tests and effectiveness tests on limited trial users. At the evaluation stage, an analysis and evaluation of the results of the implementation is carried out to get the final product of LMS Farmer. After that the final product of Farmer's LMS was then applied in the field in learning in the experimental class. Data processing validation of Farmer's LMS Characteristics is carried out with proportions. Data processing on the increase in scientific literacy ability test scores was carried out using N-Gain and statistical analysis. Meanwhile, data processing influences Farmer's LMS to increase scientific literacy skills using an effect size using Cohen's d. The results of the study show that learning using Farmer's LMS provides an increase and a higher influence on scientific literacy skills compared to learning without using Farmer's LMS.

Keywords : Learning Management System (LMS), Physics, Agriculture, Saintific Literacy

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