

The Effect Of Learning Management System Quality, Interactive Learning Features And Organizational Support On Digital Learning Adoption Of Vocational High School Students

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ABSTRACT

Penelitian ini menyelidiki bagaimana kualitas Sistem Manajemen Pembelajaran (LMS) bersama dengan fitur pembelajaran interaktif dan dukungan organisasi mempengaruhi kemampuan siswa SMA kejuruan Indonesia dalam mengadopsi teknologi pembelajaran digital. Adopsi pembelajaran digital berfungsi sebagai komponen vital yang memungkinkan program pendidikan kejuruan untuk memenuhi tuntutan pasar kerja berbasis teknologi. Peneliti menggunakan pendekatan penelitian kuantitatif yang menggunakan kerangka penelitian eksploratif. Peneliti memperoleh data primer melalui kuesioner yang diberikan kepada siswa SMA kejuruan yang belajar melalui Sistem Manajemen Pembelajaran. Peneliti menggunakan pengambilan sampel bertujuan untuk memilih responden yang memiliki pengalaman sebelumnya dengan pembelajaran digital sebagai persyaratan studi mereka. Peneliti menggunakan analisis regresi linier berganda untuk memeriksa bagaimana berbagai variabel penelitian saling mempengaruhi selama proses penelitian. Temuan penelitian menunjukkan bahwa kualitas Sistem Manajemen Pembelajaran (LMS) bersama dengan fitur pembelajaran interaktif dan dukungan organisasi menghasilkan dampak signifikan pada adopsi pembelajaran digital ketika dinilai melalui penilaian gabungan mereka. Ketiga variabel independen tersebut menunjukkan pengaruh positif dan signifikan terhadap tingkat adopsi pembelajaran digital menurut hasil penelitian. Hasil penelitian menunjukkan bahwa elemen teknologi bersama dengan kemampuan interaktif dan dukungan organisasi berfungsi sebagai faktor penting yang memungkinkan implementasi pembelajaran digital yang efektif. Sekolah perlu meningkatkan kualitas sistem pembelajaran digital mereka melalui pengembangan fitur interaktif yang lebih baik dan dukungan organisasi yang lebih besar untuk mencapai adopsi pembelajaran digital.

The research investigates how Learning Management System quality together with interactive learning features and organizational support affects Indonesian vocational high school students ability to adopt digital learning technology. Digital learning adoption functions as a vital component which enables vocational education programs to meet the demands of a technology-based job market. The researchers used a quantitative research approach which employed an explanatory research framework. The researchers obtained primary data through questionnaires which they delivered to vocational high school students who studied through Learning Management Systems. The researchers used purposive sampling to select respondents who had previous experience with digital learning experiences as their study requirement. The researchers used multiple linear regression analysis to examine how various study variables influenced each other during the research process. The research findings

demonstrated that Learning Management System quality together with interactive learning features and organizational support produced a significant impact on digital learning adoption when assessed through their combined assessment. The three independent variables exhibited positive and significant effects on the level of digital learning adoption according to the study results. The research results demonstrate that technological elements together with interactive capabilities and organizational backing function as essential factors which enable effective digital learning implementation. Schools need to improve their digital learning system quality through development of better interactive features and greater organizational support to achieve digital learning adoption.



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INTRODUCTION

Educational institutions throughout the world now recognize digital transformation as a global trend which brings fundamental modifications to the learning experience. Vocational education programs use digital learning because it helps them achieve their objective of satisfying industry standards (Nurkhasyanah et al., 2025). The increasing demand for technological proficiency from job applicants requires vocational high school students to develop essential digital skills. Academic institutions must use digital learning through various platforms that include Learning Management Systems (LMS) because these platforms have become essential to contemporary educational practices (Ginting et al., 2025). The rate of digital learning adoption by vocational high school students remains low because schools in different regions show different levels of student participation. Organizations need to assess three elements which include their technological resources and the quality of their educational materials and their academic institution support when they want to implement digital learning. Digital learning adoption handles fundamental aspects of learning which include student skill acquisition and their progression toward workforce readiness (Zuana, 2025). The digital learning method allows students to select their study times which leads to improved learning results and higher student engagement. The implementation of educational technology throughout vocational education programs helps students become adaptable innovators who can meet evolving demands. Schools need to establish digital learning adoption factors which determine vocational high school students' educational progress (Mohzana, 2025).

Vocational high school students need digital learning when they have access to Learning Management System (LMS) platforms that meet their educational needs. The students use the LMS system as their main educational platform which provides learning content and assignment systems and teacher-student communication (Asmarany et al., 2023). The evaluation process for LMS quality involves multiple assessment criteria which examine system usability and operational dependability and content access speed and user interface design throughout all system components (Saputra & Hartati, 2024). The high-quality LMS system enables students to experience better learning outcomes through an improved educational environment (Ramli et al., 2023; Sudadi et al., 2023). The digital learning technology will lead to higher student engagement and motivation when they experience educational content through this technology (Mohzana et al., 2024). Students need interactive learning features as their main requirement for participating in digital learning activities. The student learning experience improves through interactive features which include online quizzes and forum discussions and simulations and gamification and real-time feedback (Annas et al., 2026). Vocational high school education requires interactive features because vocational education emphasizes the development of practical skills (Sutarto et al., 2025). The interactive learning features enable students to learn through active participation instead of receiving information through passive means (Zebua et al., 2023). The school organization needs organizational support to create digital learning environments which vocational high school students can use for their educational progress (Karnoto & Arsyad, 2025).

The research assesses how Learning Management System quality and interactive learning components and organizational support all influence vocational high school students' adoption of digital learning. The study tests three independent variables to determine their connection with the dependent variable while finding which factors most affect digital learning adoption. The research intends to deliver theoretical knowledge which will contribute to educational management research while creating new digital learning tools. The research investigates the elements that affect technology adoption in vocational education settings. The study results will help schools enhance their digital learning systems according to practical implementation. The study provides LMS developers with recommendations to enhance system quality and functionality through their system development work.

METHOD

The study examines how the present study used a quantitative research design with explanatory research methods to investigate the relationship between Learning Management System quality and interactive learning features and organizational support and digital learning adoption at vocational high schools in Indonesia. The researchers collected primary data through questionnaires which they distributed to students who needed Learning Management Systems for their learning activities. The researchers used purposive sampling to select participants who had experience with digital learning as their sampling method. The research instrument established its measurement system through specific indicators which used a five-point Likert scale to measure participants' views. The researchers assessed LMS quality through three elements: ease of use and system reliability and system feature completeness. The researchers assessed interactive learning features through three elements: interactivity level and student engagement and variety of learning features. The researchers assessed organizational support through three elements: supporting facilities and school policies and training that organizations provide. The researchers assessed digital learning adoption through three elements: frequency of student software usage and student software usage difficulties and student software usage advantages. The researchers performed validity and reliability tests on the data before analysis to verify the research instruments met quality standards. The researchers conducted classical assumption tests which included normality testing and multicollinearity testing and heteroscedasticity testing to confirm that the regression model satisfied statistical requirements.

RESULT AND DISCUSSION

The study used multiple linear regression analysis results to demonstrate that research model can identify which independent variables influence the dependent variable. The F test results showed a significance level below 0.05 which demonstrated that Learning Management System quality interactive learning features and organizational support together create a major impact on digital learning adoption by Vocational High School students. The coefficient of determination R^2 value demonstrates that three independent variables will explain most of the changes in digital learning adoption while other factors beyond the research model will account for the remaining variations. The t test results show that all independent variables produce positive and significant regression coefficients which demonstrate that digital learning adoption increases when each variable experiences growth. The regression model meets normality requirements and it does not show multicollinearity problems and it demonstrates no signs of heteroscedasticity according to the classical assumption test results. The regression model demonstrates valid status which enables researchers to conduct hypothesis testing and research result interpretation.

The study results demonstrate that vocational high school students in Indonesia who use Learning Management Systems experience better digital learning results because higher system quality leads to better learning outcomes. The research demonstrates that better digital learning system quality results in higher student digital learning adoption rates. An LMS which provides simple usability and quick system access together with stable operation will create a better educational environment for students. Students will continue using the LMS because they find the experience to be enjoyable for their educational requirements. A high-quality learning management system LMS serves educational purposes through its extensive range of features which effectively support the academic process. The LMS system needs to meet high standards because vocational high school learning requires practical media resources for effective studying. The effective learning management system LMS allows educational institutions to

create courses which combine different types of content including videos and simulations and interactive learning modules. The students will gain better understanding of the material through this method. The quality of the LMS system affects students' perception of how easily they can use the technological system. The system will be used more when users have positive opinions about it. The study results support technology adoption theory because perceived ease of use and perceived usefulness are vital factors for technology acceptance. A high-quality learning management system LMS helps students by minimizing technical difficulties that they usually face. The students will spend more time learning because of this.

The research outcomes show that interactive learning components deliver essential advantages to digital learning implementation which vocational high school students in Indonesia use. The research shows that interactive learning elements lead to increased student participation in digital learning activities. The learning experience becomes more engaging and enjoyable through features which include online quizzes and discussion forums and simulations and gamification elements. The learning technology will receive more active student usage because of this fact. The interactive learning elements permit students to take an active role in their educational activities. The process will enhance material comprehension and retention. Interactive features have an essential function in vocational high school education because students require hands-on experience. Interactive learning features enable students to learn together because they let students share their thoughts and work on tasks with their classmates. The process will develop better communication abilities in students and strengthen their ability to work as a team. The system's interactive elements provide immediate assessment outcomes which help students identify their errors and learn methods to correct them.

The study results show that organizational support positively impacts vocational high school students in Indonesia who adopt digital learning. The research demonstrates that school support serves as a critical element which drives schools to implement digital learning technologies. The organization provides conjunction with technological infrastructure and school policies and educational training for teachers and students. Schools which provide strong digital learning support create an environment which enables effective learning. The new system will help students develop confidence when they use learning technologies. The organizational framework provides support which helps teachers become prepared for their digital teaching responsibilities. The teachers who possess complete subject knowledge will lead students to engage with the learning management system. The students will use digital learning methods because they require basic internet access to learn. The statement holds particular significance for students who face difficulties accessing technological resources. The organizational framework of a school includes elements that establish a culture which encourages both innovative practices and technological advancements.

CONCLUSION

The study found that Indonesian vocational high school students adopt digital learning because three factors exist: Learning Management System quality and interactive learning features and organizational support. The Learning Management System quality establishes digital learning access for students through its impact on their learning efficiency which determines their technology acceptance. Interactive learning features enable students to participate more actively in their studies which raises their motivation and improves their educational experience. The organizational support system delivers vital resources through its infrastructural capacity and its procedural framework which establishes an environment that facilitates digital learning development. The three studied variables function as primary factors that drive vocational high school students to adopt digital learning technology. The Better Learning Management System (LMS) needs to be improved through interactive learning development and organizational support improvements which require proper facility and training provision. Educators and technological developers need to increase their collaborative efforts within the school system for better digital learning process implementation.

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